June 1974 Number 358-Part I

Solar-Geophysical Data prompt reports

Data for May 1974–April 1974

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA SERVICE / ASHEVILLE, N.C.

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Solar - Geophysical Data

NO. 358 JUNE 1974

Part I (Prompt Reports)

DATA FOR
MAY 1974
APRIL 1974

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

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SOLAR - GEOPHYSICAL DATA

No. 358

Issued in two parts

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CONTENTS

Part I (Prompt Reports)

	Page
Index for 1973 and 1974	2
Data for May 1974	3-25
Data for April 1974	27-120

Part II (Comprehensive Reports)

Index for 1973 and 1974	2
Data for December 1973	3-35
Data for November 1973	37-45

INDEX FOR 1973 - 1974 DATA PUBLISHED IN "SOLAR-GEOPHYSICAL DATA"

		1973 Aug	Sep	Oct	Nov	Dec	1974 Jan	Feb	Mar	Apr	May
A.	Solar and Interplanetary Phenomena										
A.1	Sunspot Drawings	350	351	352	353	354	355	356	357	358	
A.2a	Zürich Provisional Relative Sunspot Numbers R_Z	349	350	351	352	353	354	355	356	357	358
A.2b	Zürich Final Sunspot Numbers R_Z	355	355	355	355	355					
A.2c	American Relative Sunspot Numbers R_A'	349	350	351	352	353	354	355	356	357	358
A.3a	Mt. Wilson Magnetograms	350	351	352	353	354	355	356	357	358	
A.3b	Mt. Wilson Magnetic Characteristics of Sunspots	350	351	352	353	354	355	356	357	358	
A.4	Hα Spectroheliograms	350	351	352	353	354	355	356	357	358	
A.5	Calcium Plage Drawings - McMath (or Catania)	350	351	352	353	354	355	356	357	358	
A.5a	Calcium Plage (McMath) and Sunspot Regions	350	351	352	353	354	355	356	357	358	
A.5b	McMath Daily Calcium Plage Index	350	351	352	353	354	355	356	357	358	
A.6	Hα Synoptic Charts	350	351	352	353	354	355	356	357	358	
A.7b	Coronal Line Emission	350	351	352	353	354	355	356	357	358	
A.7c	White-Light Corona (NRL OSO-7, 1971-083A)	350	351	352	353	354	355	356	357	358	
A.7d	Solar EUV Spectroheliogram Fe XV 284 Å (GSFC OSO-7, 1971-083A)	350	351	352	353	354	355	356	357		
A.8aa	2800 MHz - Daily Values of Solar Flux (ARO-Ottawa)	349	350	351	352	353	354	355	356	357	358
A.8ac	2800 MHz - Daily Values of Adjusted Solar Flux (ARO-Ottawa)	349	350	351	352	353	354	355	356	357	358
A.8g	Daily Values of Adjusted Solar Flux (AFCRL)	349	350	351	352	353	354	355	356	357	358
A.9c	8.6 mm Radio Maps of the Sun (Prospect Hill)	350	351	353	353	354	356	356			
A.10a	169 MHz - Interferometric Observations (Nancay)	350	351	352	353	354	355	356	357	358	
A.10c	21 cm East-West Solar Scans (Fleurs)	349	351	351	353	353	354	355	356	357	358
A.10d	43 cm East-West Solar Scans (Fleurs)	349	351	351	353	353	354	355	356	357	358
A.10e	10.7 cm East-West Solar Scans (Ottawa-ARO)	349	350	351	352	353	354	355	356	357	358
A.11aa	Solar X-ray Radiation (Explorer 37 or 44)	350	351	352	353	354	355	356			
A.11ab	Solar X-ray Radiation (Explorer 37 or 44) Graphs	354	355	356	357	358					
A.11f	Solar X-ray Spectroheliograms (GSFC OSO-7, 1971-083A)	350	351	352	353	354	355	356	357	358	
A.12aa	Solar Protons (Explorer 43) Daily Hourly Values										
A.12ab	Solar Protons (Explorer 43) Graphs										
A.12ba	Cosmic Ray Protons (Pioneers 6 & 7)	349	350	---	352	353	---	---	356	---	---
A.12bb	Cosmic Ray Protons (Pioneers 8 & 9)	349	350	351	352	353	354	355	356	---	358
A.13a	Solar Wind (Pioneers 6 & 7)	349	350	---	352	353	---	---	356	---	---
A.17	Interplanetary Magnetic Field (Pioneer 8)	349	350	---	---	353	354	---	---	---	---
A.17	Interplanetary Magnetic Field (Pioneer 9)	349	350	351	352	353	354	355	356	---	358
A.17c	Inferred IP Magnetic Field	349	350	351	352	353	354	355	356	357	358
A.18	Interplanetary Electric Field (Pioneer 8)	349	350	---	---	353	354	---	---	---	---
A.18	Interplanetary Electric Field (Pioneer 9)	349	350	351	352	353	354	355	356	---	358
B.	Ionospheric (and Radio Wave Propagation) Phenomena										
B51ca	High Latitude Quality Figures and Forecasts	350	351	352	353	354	355	356	357	358	
B.52	Graphs of Transmission Frequency Range	350	351	352	353	354	355	356	357	358	
B.53	Quality Figures Based on Frequency Ranges	350	351	352	353	354	355	356	357	358	
C.	Flare-Associated Events										
C.1a	Optical Observations Flares	349	350	351	352	353	354	355	356	357	358
C.1ba	Optical Observations Flares (Including Standardized Data)	354	355	356	357	358					
C.1d	Flare Patrol Observations	349	350	351	352	353	354	355	356	357	358
C.1e	Flare Indices (by day)	354	355	356	357	358					
C.1f	Flare Index by Region	355	356	357	358						
C.3	Solar Radio Waves - Fixed Frequencies - Outstanding Occurrences	354	355	356	357	358					
	Solar Radio Waves - Fixed Frequencies - Selected	349	350	351	352	353	354	355	356	357	358
C.3t	43.25, 80 and 180 MHz Selected Bursts (Culgoora)	350	351	352	353	354	355	356	357		
C.4	Solar Radio Spectral Observations	350	351	352	353	354	355	356	357	358	
C.5c	Solar X-ray Radiation (Explorer 37)	350	351	352	353	354	355	356			
C.6	Sudden Ionospheric Disturbances	350	351	352	353	354	355	356	357	358	
D.	Geomagnetic and Magnetospheric Phenomena										
D.1a	Geomagnetic Indices Ci, Cp, Kp, Ap, aa - Selected Days	350	351	352	353	354	355	356	357	358	
D.1b	27-Day Chart of Kp Indices for Year	354	354	354	354	354	355	356	357	358	
D.1c	27-Day Chart of C9 for Year	354	354	354	354	354	355	356	357	358	
D.1d	Principal Magnetic Storms	350	351	352	353	354	355	356	357	358	
D.1e	Reduced Magnetograms	---	---	356	---	---					
D.1f	Sudden Commencement and Solar Flare Effects	350	351	352	353	354	355	356	357	358	
D.1g	Equatorial Indices Dst	350	351	352	353	354	355	356	357	358	
F.	Cosmic Rays										
F.1a	Cosmic Ray Neutron Counts (Deep River)	350	351	352	353	355	356	357	357	358	
F.1b	Cosmic Ray Neutron Counts (Climax)										
F.1c	Cosmic Ray Neutron Counts (Dallas)	350	352	352	353	354	355	356	357	---	
F.1e	Cosmic Ray Neutron Counts (Alert)	350	351	352	353	355	356	357	357	358	
F.1f	Cosmic Ray Neutron Counts (Calgary)	350	351	352	353	354	355	356	357	358	
F.1g	Cosmic Ray Neutron Counts (Sulphur Mountain)	350	351	352	353	354	355	356	357	358	
F.1h	Cosmic Ray Neutron Counts (Thule)	350	351	352	353	354	355	356	357	358	
F.1i	Cosmic Ray Neutron Counts (Kiel)					354	355	356	357	358	
F.1j	Cosmic Ray Neutron Counts (Tokyo)					354	355	356	357	358	
H.	Miscellaneous										
H.60	IUWDS Alert Decisions	349	350	351	352	353	354	355	356	357	358
H.62	Abbreviated Calendar Record	355	356	357	358						

MAY 1974 DATA

Contents

	Page
Alert Period	
IUWDS Alert Periods (Advance and Worldwide)	4-5
Daily Solar Indices	
12-Month Tables Sunspot Numbers, R_Z, and 2800 MHz Flux Adjusted to 1 A.U.	6
Combined Table Sunspot Numbers and Solar Fluxes	7
Graph of Sunspot Cycles	8
Zürich Smoothed Observed and Predicted Sunspot Numbers	9
Solar Flares	
Flares of Numerical Importance 1 or Greater	10-11
Subflares	12
No-Flare-Patrol Chart	13
Solar Radio Waves	
169 MHz Solar Interferometric Chart - Nançay	14
10.7 cm East-West Solar Scans - ARO, Ottawa	15
21 cm East-West Solar Scans - Fleurs	16
43 cm East-West Solar Scans - Fleurs	17
Selected Fixed-Frequency Occurrences	18-19
Selected Solar Noise Bursts	20-22
Spacecraft Observations	
Pioneer IX	23-24
Inferred IP Magnetic Field Polarities	25

For explanations of the data contained herein see *Descriptive Text* published as supplement to February 1974 *Solar-Geophysical Data* (Number 354).

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

MAY 1974

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

Date	
05	BOULDER 05/0950Z STRONG MAGSTORM IN PROGRESS 05/0500Z GRADUAL COMMENCEMENT, POSSIBLE ASSOCIATION WITH EAST LIMB FLARES
17	BOULDER 17/0515Z WEAK MAGSTORM IN PROGRESS, INTENSIFIES 17/0500Z BOULDER K INDEX EQUALS 5 17/0000 to 0300Z AND 0300Z TO 0600Z

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location Lat-Long	No. of Flares Total	M	X		Date	Location Lat-Long	Desc*	
121	01	30	024	090	19	S04E57	1	0	0		01	S04E57	Q	SOLALERT 01/XX
						S09E77	7	3	0			S09E77	A	MAGALERT MINOR 01/07
122	02	01	073	098	05	S03E44	0	0	0		02	S03E44	Q	SOLALERT 02/XX
						S07E65	7	0	0			S07E65	E	MAGNIL
						S12E76	2	0	0			S12E76	A	
						N07W29	0	0	0			N07W29	Q	
123	03	02	111	114	13	S03E32	0	0	0		03	S03E32	Q	CAUTION SOUTHEAST LIMB
						S07E53	1	0	0			S07E53	Q	SOLALERT 03/XX
						S12E64	6	0	0			S12E64	A	MAGQUIET
						N07W42	4	0	0			N07W42	E	
						S08E61	0	0	0			S08E61	Q	
						N08E26	0	0	0			N08E26	Q	
124	04	03	109	114	20	S03E18	0	0	0		04	S03E18	Q	SOLALERT 04/XX
						S06E39	8	1	0			S06E39	E	MAGQUIET
						S12E51	1	0	0			S12E51	Q	
						N07W58	0	0	0			N07W58	Q	
						S08W46	0	0	0			S08W46	Q	
						N07W30	2	0	0			N07W30	Q	
						S11E72	0	0	0			S11E72	Q	
125	05	04	151	117	28	S03E03	0	0	0	A MINOR GEOMAGNETIC	05	S03E03	Q	SOLQUIET
						S07E25	4	0	0	DISTURBANCE IS IN		S07E25	Q	MAGQUIET
						S12E39	0	0	0	PROGRESS AT SUB-		S12E39	Q	
						N08W79	0	0	0	STORM LEVEL		S08W79	Q	
						S09E32	0	0	0			S09E32	Q	
						N05W45	1	0	0			N05W45	Q	
						S12E57	0	0	0			S12E57	Q	
						N10W35	0	0	0			N10W35	Q	
						S06E10	0	0	0			S06E10	Q	
126	06	05	223	119	32	S03W09	0	0	0	THE MAGNETIC DIS-	06	S03W09	Q	SOLQUIET
						S07E11	0	0	0	TURBANCE INCREASED		S07E11	Q	MAGALERT 06/08
						S13E27	4	0	0	TO MINOR STORM		S13E27	Q	
						S10E21	0	0	0	LEVEL AND WILL CON-		S10E21	Q	
						N04W59	1	0	0	TINUE FOR 24 HOURS		N04W59	Q	
						S13E44	0	0	0			S13E44	Q	
						S05W03	0	0	0			S05W03	Q	
						N08W16	0	0	0			N08W16	Q	
127	07	06	183	122	08	S03W22	0	0	0		07	S03W22	Q	SOLQUIET
						S07W02	1	0	0			S07W02	Q	MAGNIL
						S13E11	3	0	0			S13E11	Q	
						S09E08	0	0	0			S09E08	Q	
						N05W74	2	0	0			N05W74	Q	
						S13E30	0	0	0			S13E30	Q	
						N11W63	6	0	0			N11W63	Q	
						S05W14	2	0	0			S05W14	Q	
						N09W25	1	0	0			N09W25	Q	
						S08W37	0	0	0			S08W37	Q	
128	08	07	141	117	09	S03W36	1	0	0		08	S13W01	A	SOLALERT 08/12
						S07W17	3	0	0			S07W17	E	MAGQUIET
						S13W01	6	1	0			SIX		
						S09W05	0	0	0			GROUPS	Q	
						S13E17	1	0	0					
						N11W78	0	0	0					
						S05W31	0	0	0					
						S09W52	0	0	0					
129	09	08	119	114	07	S03W49	0	0	0	TENFLARE 08/0009Z	09	S08W16	A	SOLALERT 09/13
						S07W31	2	0	0	2N OPTICAL		S12W14	E	MAGQUIET
						S12W14	5	1	2	M3 XRAY		S07W31	E	
						S08W16	1	0	0			O.G.	Q	
						S12E04	0	0	0					
						S05W46	3	0	0					
						S10E56	0	0	0					
130	10	09	105	108	09	S05W63	0	0	0	POSSIBLE	10	S07W43	A	SOLALERT MINOR 10/12
						S07W43	7	0	0	2B 09/1043Z		S13W26	E	MAGQUIET
						S13W26	1	0	0	S06W37		O.G.	Q	
						S09W30	0	0	0					
						S12W08	1	0	0					
						S05W59	0	0	0					
						S19W17	0	0	0					
131	11	10	113	103	03	S03W77	1	0	0		11	S03W77	Q	SOLNIL
						S07W57	0	0	0			S07W57	Q	MAGQUIET
						S12W40	0	0	0			S12W40	Q	
						S09W45	0	0	0			S09W45	Q	
						S12W22	0	0	0			S12W22	Q	
						S04W73	0	0	0			S04W73	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

MAY 1974

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of obser-vation	Wolf number	10cm solar Flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location Lat-Long	No. of Flares Total	M	X		Date	Location Lat-Long	Desc*	
						S10E30	0	0	0			S10E30	Q	
						S19W30	0	0	0			S19W30	Q	
132	12	11	088	102	04	S02W93	0	0	0		12	S02W43	Q	SOLQUIET
						S07W73	0	0	0			S07W73	Q	MAGQUIET
						S12W57	0	0	0			S12W57	Q	
						S09W60	0	0	0			S09W60	Q	
						S12W37	1	0	0			S12W37	Q	
						S19W44	0	0	0			S19W44	Q	
						N11W22	0	0	0			N11W22	Q	
133	13	12	075	094	04	S07W86	1	0	0		13	S07W86	Q	SOLQUIET
						S12W73	2	0	0			S12W73	Q	MAGALERT 14/XX
						S12W49	3	0	0			S12W49	Q	
						N04E09	0	0	0			N04E09	Q	
						N12W28	2	0	0			N12W28	Q	
						S15W08	0	0	0			S15W08	Q	
134	14	13	051	093	03	S12W62	2	0	0	A 2N FLARE WAS	14	S12W62	Q	
						N05W00	0	0	0	OBSERVED 13/2119Z		N05W00	Q	
						S13W12	0	0	0	AT S11W60. 10 cm		S13W12	Q	
						S10W61	0	0	0	RADIO 370 F.U. ABOVE BACKGROUND. ONLY SMALL X-RAY BURST OBSERVED.		S10W61	Q	
135	15	14	035	086	08	S12W78	0	0	0		15	ALL THE GROUPS	Q	SOLQUIET MAGALERT RECURRENCE 15/XX
						N05W16	0	0	0					
						S13W27	0	0	0					
136	16	15	017	083	21	S11W89	0	0	0	ACTIVE MAGNETIC	16	S11W89	Q	SOLQUIET
						N06W29	1	0	0	CONDITONS ASSOCI-ATED WITH RECURRENT DISTURBANCE BEGAN 15/0000Z		N06W29	Q	MAGALERT RECURRENCE 16/XX
137	17	16	017	078	19	N06W45	1	0	0		17	N06W45	Q	SOLQUIET MAGALERT MINOR RECURRENCE 17/18
138	18	17	013	074	32	N06W59	3	0	0	MINOR MAGSTORM IN PROGRESS START 17/0500Z	18	N06W59	Q	SOLQUIET MAGALERT 18/XX MINOR
139	19	18	000	073	22	N06W72	1	0	0		19	SPOTNIL		SOLQUIET MAGALERT 19/XX MINOR
140	20	19	000	071	16	-	0	0	0		20	SPOTNIL		SOLQUIET MAGALERT 20/22
141	21	20	000	071	18	-	0	0	0		21	SPOTNIL		SOLQUIET MAGALERT 21/22 MINOR
142	22	21	000	70	18	N07E66	1	0	0	MAGSTORM ENDED 21/2100Z. DISTURBED COND. CONTINUES.	22	SPOTNIL		SOLQUIET MAGNIL
143	23	22	012	070	17	S17W17	0	0	0		23	S17W17	Q	SOLQUIET MAGQUIET
144	24	23	012	070	20	S18W32	0	0	0	MAG. DISTURBANCE CONTINUES LOCAL NIGHT TIME	24	S18W32	Q	SOLQUIET MAGQUIET
145	25	24	000	070	23	-	0	0	0	MINOR GEOMAGNETIC DISTURBANCE CON-TINUES AT SUBSTORM LEVEL	25	SPOTNIL		SOLQUIET MAGQUIET
146	26	25	000	071	18	-	0	0	0	THE MINOR GEOMAG-NETIC DISTURBANCE CONTINUES AT SUB-STORM LEVEL	26	SPOTNIL		SOLQUIET MAGQUIET
147	27	26	047	078	09	N15W69	0	0	0		27	N15W69	Q	SOLQUIET MAGQUIET
						N16W43	1	0	0			N16W43	Q	
						S04E73	0	0	0			S04E73	Q	
148	28	27	029	083	12	S15W58	7	0	0		28	S15W58	E	SOLQUIET MAGQUIET
149	29	28	034	085	14	S16W73	0	0	0		29	S16W73	E	SOLQUIET
						N07W53	0	0	0			O.G.	Q	MAGALERT MINOR 30/04
						S14E63	1	0	0					
150	30	29	015	087	09	S15W84	0	0	0		30	S15W84	Q	SOLQUIET
												SE LIMB	C	MAGALERT MINOR 30/04
151	31	30	015	086	18	S14E76	3	1	0		31	S14E76	E	MAGALERT 31/04 MINOR SOLALERT 31/XX
152	01	31	022	093	21	S14E65	4	3	0	SATELLITE REPORTS INDICATE 3 SMALL M EVENTS, BUT CLOUD COVER HAS PREVENTED OPTICAL PATROL.	01	S14E65	E	SOLALERT 01/XX MAGALERT 01/04

* Q=Quiet E=Eruptive A=Active P=Proton C=Caution D=Deubtful O.G.=Other Groups

RELATIVE SUNSPOT NUMBERS

ZURICH, R_Z

	1973 FINAL							1974 PROVISIONAL				
DAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
1	8	29	36	89	68	31	46	18	13	25	26	48
2	8	31	28	124	66	33	24	15	12	16	20	70
3	16	39	21	130	52	23	24	13	8	16	19	89
4	14	32	28	121	50	20	0	12	7	17	22	103
5	7	42	34	108	44	7	0	8	8	18	21	106
6	16	56	40	84	38	0	0	8	8	19	23	113
7	37	57	42	77	30	0	0	0	8	20	28	109
8	41	50	40	72	22	0	7	29	16	16	38	106
9	31	38	38	75	23	0	8	36	22	20	58	91
10	38	32	27	58	8	0	16	44	21	30	70	69
11	60	23	23	42	0	7	9	49	21	37	75	64
12	58	14	8	22	0	0	9	60	36	38	78	56
13	52	15	0	0	8	9	8	45	50	30	83	40
14	54	10	0	0	10	11	8	74	26	42	87	35
15	48	16	0	13	16	12	17	77	46	37	98	24
16	45	9	0	26	18	13	26	64	48	23	93	16
17	36	28	0	20	19	16	40	65	47	20	75	8
18	18	42	7	16	15	16	43	52	46	32	64	0
19	30	23	7	8	0	22	41	58	45	28	51	0
20	51	8	7	30	0	16	47	49	43	9	49	0
21	75	8	15	39	0	23	51	37	37	16	43	0
22	66	14	10	48	16	29	51	36	45	31	28	7
23	54	8	17	58	28	39	47	28	35	27	17	9
24	51	9	22	63	36	38	51	16	29	21	19	7
25	49	14	28	74	53	46	53	0	17	18	20	0
26	46	8	38	78	59	62	57	8	20	18	20	20
27	43	9	37	78	53	60	26	0	42	9	38	18
28	42	10	47	80	62	61	12	8	35	17	30	32
29	51	17	56	75	65	64	8	7		19	22	28
30	33	11	64	71	55	59	8	8		25	16	8
31		22	82		37		8	8		26		52
MEAN	39.5	23.1	25.6	59.3	30.7	23.9	23.3	29.3	27.7	22.7	44.4	42.3

1973 yearly mean = 38.0

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

	1973							1974				
DAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
1	85.2	98.9	86.9	114.9	109.0	87.8	86.9	71.5	71.8	76.4	72.1	98.5
2	83.1	93.1	86.8	129.2*	106.1	83.9	86.3	73.2	73.1	76.5	71.3	113.1*
3	81.5	93.5	85.0	136.5	103.5	81.1	82.7	73.3	73.1	77.1	71.6	115.5
4	81.0	94.9	86.2	135.0*	94.9	77.4	78.6	72.5	72.9	79.0	73.3	118.8
5	82.5	97.9	85.1	135.1*	90.6*	73.9	73.6	72.1	74.0	78.6	76.3	119.7
6	85.1	99.4	88.8	130.9	85.9	73.2	70.9	74.7	75.4	77.5	80.0	123.8
7	85.3	99.9	90.8	121.7*	82.2	72.1	70.4	76.8	77.4	76.8	80.2	119.3
8	87.4	97.6*	87.5	115.7	80.1	70.4	70.9	79.7	78.8	77.0	81.1	115.8
9	88.9	98.6*	87.1	113.1*	79.1	70.4	71.2	84.9	80.8	80.2	87.8	110.0
10	91.0	100.5	83.4	106.7*	77.0	70.7	72.3*	89.2	80.5	86.1	93.5*	105.1
11	92.9	94.8	78.9	96.8	74.9	71.2	71.9	91.0*	77.5	85.9	99.8	104.3
12	93.6	85.4	76.3	89.5	72.0	70.7	72.5	94.6	76.5	86.2	105.6*	97.1
13	96.3	80.3	74.7	84.6	70.5	72.6	73.1	94.8*	77.3	84.5	102.8	93.5
14	97.7*	79.5	74.1	82.9	72.7	73.8	73.8	98.7	76.3	81.9	116.3	88.2
15	98.2	78.7	72.6	82.6	75.7	75.0	76.6	91.8	83.7	82.9	122.9*	84.9
16	95.2	79.5	74.1	83.9	75.6	75.6	79.7	90.0	84.7	81.8	115.0*	80.3
17	89.8	78.1	75.0	81.8	79.5	75 J	82.1	89.2	85.9	82.7	101.8	75.8
18	91.4	83.6	75.3	84.6	78.3	75.5	84.9	87.1	87.5	80.2	98.0	75.2
19	99.2	81.6	75.4	86.6	76.7	75.4	87.8	85.8	82.7	80.0	97.5*	73.0
20	105.4	79.5	76.8	92.0	73.4	76.8	89.9	84.4	82.2	79.6	82.3	72.5
21	108.8	79.4	80.4*	94.9	80.8	80.7	97.6	79.7	82.2	79.1	79.5	71.9
22	109.4	77.6	80.4	99.5	85.0	84.7	96.7*	83.5*	82.2	80.0	75.3	72.2
23	108.8	78.6	81.8	103.9	89.9	86.5	96.0	81.0	84.2	79.8	73.9	71.5
24	106.1	81.6	85.3	106.2	97.6*	87.8	98.1	77.8	80.9	76.6	75.8	72.4
25	101.3	83.8	88.9	112.7	101.8	86.8*	97.6	74.1	76.6	74.3	76.5	72.4
26	100.3	85.8	91.2	115.5	101.0	91.8*	92.9	71.5	76.2	72.6	74.9	79.6
27	94.8	85.5	95.1	115.9	101.7*	88.8	88.6	70.7	76.4	71.8	75.3	85.1
28	95.2	84.2	97.5	118.1	100.7	90.7	81.7*	70.8	75.8	70.4	77.9	87.4
29	95.1	89.5*	100.8	116.5	99.1	94.9	76.4	70.7		71.5	81.6	89.4
30	94.1*	86.1	101.3	116.5*	97.4*	95.7*	74.1	70.8		72.1	91.7	91.3
31		86.6	189.6		98.5		72.8	71.3		72.9		95.1
MEAN	94.2	87.2	84.9	106.8	87.1	79.7	81.5	80.4	78.9	78.4	86.7	92.6

* adjusted for burst

DAILY SOLAR

MAY 1974

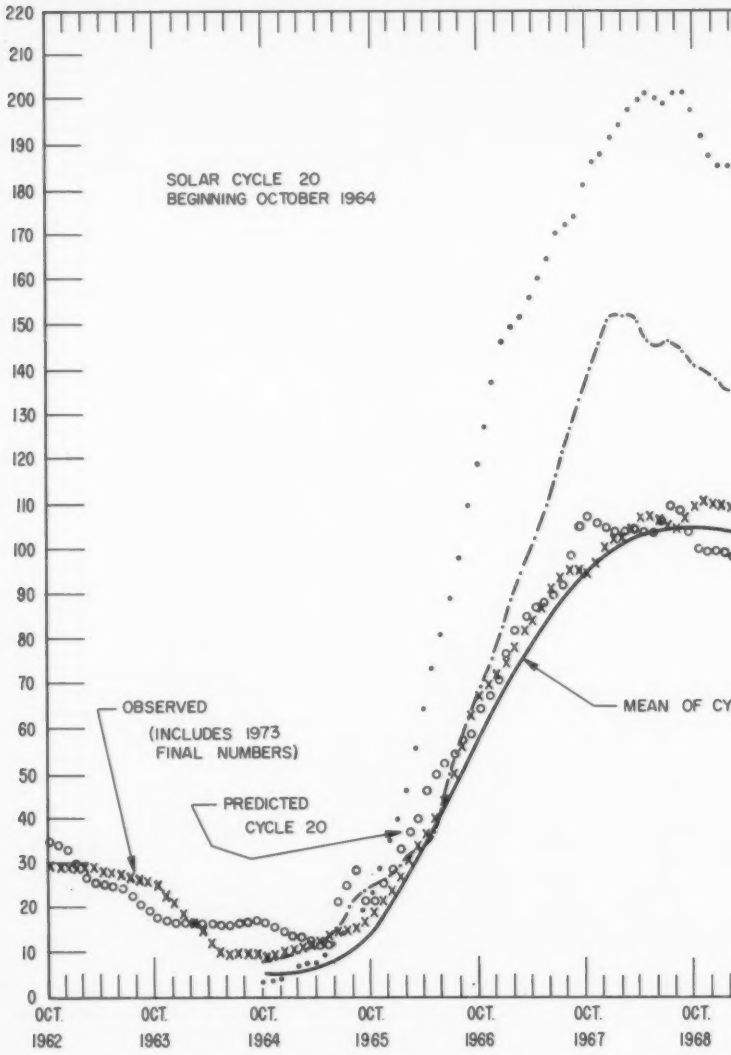
MAY 1974	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX			
			R_Z	$R_{A'}$	OTTAWA 2800	AFCRL 15400	AFCRL 8800	AF 49
1	121	27	48	49	96.9	526	284	1
2	122	1	70	69	111.3*	536	298	1
3	123	2	89	85	113.6	525	295	1
4	124	3	103	103	116.0	522	290	1
5	125	4	106	93	117.6	520	291	1
6	126	5	113	92	120.8	521	295	1
7	127	6	109	98	117.1	521	289	1
8	128	7	106	82	113.6	521	292	1
9	129	8	91	81	107.9	524	289	1
10	130	9	69	70	103.0	522	287	1
11	131	10	64	55	102.3	520	285	1
12	132	11	56	37	95.1	518	284	1
13	133	12	40	23	91.6	516	277	1
14	134	13	35	22	86.3	515	278	1
15	135	14	24	17	83.1	511	272	1
16	136	15	16	11	78.5	508	269	1
17	137	16	8	9	74.1	514	264	1
18	138	17	0	0	73.4	509	265	1
19	139	18	0	0	71.3	511	268	1
20	140	19	0	0	70.8	507	268	1
21	141	20	0	0	70.1	510	270	1
22	142	21	7	5	70.4	512	269	1
23	143	22	9	5	69.7	510	268	1
24	144	23	7	2	70.6	506	267	1
25	145	24	0	5	70.6	520	265	1
26	146	25	20	22	77.5	520	273	1
27	147	26	18	19	82.9	519	280	1
28	148	27	32	29	85.1	523	279	1
29	149	1	20	14	87.0	522	280	1
30	150	2	0	10	88.8	520	280	1
31	151	3	52	31	92.5	522	282	1
MEAN			42.3	36.7	90.6	518	279	1

* Corrected for burst.

R INDICES

1974

SOLAR FLUX ADJUSTED TO 1 A.U.						
AFCRL 4995	OTTAWA 2800	AFCRL 2695	AFCRL 1415	AFCRL 606	AFCRL 410	AFCRL 245
143	98.5	94.4	61.2	44.5	24.2	10.6
154	113.1*	112.6	74.5	50.7	31.8	18.3
154	115.5	112.4	75.4	46.8	27.3	17.7
149	118.0	115.4	77.6	45.4	25.6	15.1
151	119.7	115.6	78.7	46.2	26.1	12.4
152	123.0	119.9	86.5	49.0	25.6	9.6
145	119.3	116.5	84.6	49.7	26.5	9.9
143	115.8	113.6	82.4	49.6	25.6	9.2
138	110.0	108.5	81.6	48.5	26.8	11.2
138	105.1	101.2	78.1	48.8	25.4	10.5
137	104.3	102.3	73.5	48.3	26.1	10.8
131	97.1	93.7	70.9	46.7	27.4	11.1
132	93.5	89.5	66.5	46.0	25.0	10.1
129	88.2	83.3	60.0	44.4	24.7	10.1
125	84.9	74.9	57.1	42.2	24.8	9.3
122	80.3	75.6	53.3	39.7	22.7	9.9
119	75.8	71.5	49.6	36.6	23.0	8.7
119	75.2	70.4	46.1	36.8	21.3	9.2
117	73.0	69.7	46.1	35.8	21.8	8.5
115	72.5	67.6	44.3	36.2	21.1	9.0
116	71.9	67.9	46.9	36.2	21.8	9.1
117	72.2	67.2	46.7	36.3	21.1	8.6
117	71.5	68.0	43.6	36.3	20.7	8.4
116	72.4	68.4	47.0	37.2	21.9	8.1
117	72.4	70.6	47.0	37.9	22.0	8.6
122	79.6	77.0	52.0	39.4	23.2	9.3
128	85.1	82.9	55.7	40.4	23.6	13.2
130	87.4	83.8	56.8	41.2	24.3	10.1
132	89.4	84.7	59.5	43.1	26.3	11.2
134	91.3	86.0	60.3	42.2	23.5	10.9
138	95.1	90.4	60.5	43.1	24.1	10.5
132	92.6	88.9	62.1	42.7	24.4	10.6



PREDICTED AND OBSER

8
May 74

SERVED SUNSPOT NUMBERS

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS

CYCLE 20

MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1964										9.6	10.2	11.0
1965	11.7	12.0	12.5	13.6	14.6	15.0	15.5	16.4	17.4	19.7	22.3	24.5
1966	27.7	31.3	34.5	37.4	40.7	44.6	50.3	56.6	63.1	67.6	70.2	72.7
1967	75.0	78.8	82.2	84.6	87.4	91.3	94.1	95.3	95.3	95.0	97.1	100.6
1968	102.6	102.9	104.7	107.2	107.6	106.6	105.2	104.8	107.0	109.9	110.6	110.1
1969	110.0	109.6	108.0	106.4	106.2	106.1	105.8	106.4	105.4	104.1	104.6	104.9
1970	105.6	106.0	106.2	106.1	105.8	105.3	103.8	101.0	97.2	93.9	89.4	84.1
1971	80.4	77.8	74.4	70.9	68.1	66.7	65.4	64.6	65.8	66.2	66.8	69.4
1972	70.8	71.2	72.4	73.4	72.9	70.5	68.2	65.5	62.2	60.6	58.7	55.1
1973	50.9	46.5	44.2	42.7	40.7	39.1)	37.6	36.3	34.7	33.2	32.7	31.2 (1)
1974	29.8 (2)	28.6 (3)	27.7 (4)	27.0 (4)	26.6 (5)	25.8 (6)	24.5 (6)	23.0 (7)	21.4 (7)	20.0 (8)	18.7 (8)	17.7 (9)
1975	16.9 (8)	16.0 (8)	15.4 (8)	14.8 (8)	14.1 (8)	13.6 (9)	13.5 (11)					

For each month, the upper figure is the observed or predicted Zürich smoothed sunspot number. The lower figure in parenthesis is the corresponding absolute value of the 90% prediction interval, an indication of the uncertainty above and below the predicted number. Observed numbers are those with no prediction intervals. The observed smoothed sunspot numbers are based on final Zürich numbers through 1973.

The predicted sunspot numbers are derived from a regression analysis based on cycles 8 through 19. Tests indicate that earlier cycles are from a different statistical population. From July 1968 - February 1970 a regression analysis based on cycles 1 through 19 was used because it had not then been proven that two populations exist.

SOLAR FLARES

PARTIAL LISTING

Solar Flares for which at least one observatory has assigned a numerical importance of "1" or greater.

MAY 1974

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mi. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg.	MAX. INT. %	
CATA	01	0810	0820	0815	S03	E90	1.000	12906	8.1	10	1F	3		0815	.58			(138)	
CATA	01	0812	0820	0812	S07	E80	.984		7.3	8	SN	3		0812	.29			(178)	
CATA	01	0910	0920	0910	S06	E78	.977	12906	7.2	10	1B	3		0910	.58			(204)	
UPIC	01	1005E	1023		S11	E73	.954	12906	6.9	18D	2B			1005	2.73				
CATA	01	1006E	1020D	1006	S12	E74	.959	12906	7.0	14D	3B	3		1006	5.80			(380)	
CATA	01	1150	1150D	1150	S12	E78	.976	12906	7.3		1B	3		1150	.87			(245)	
MCMA	01	1155	1204	1157	S11	E82	.989	12906	7.6	9	SB		C	1157					D
RAMY	01	1200E	1206	1200U	S11	E82	.989		7.7	6D	SN	4	C		.37				DE
RAMY	01	1225	1240	1229	S07	E74	.959		7.1	15	SB	4	C		.84				DE
MCMA	01	1225	1231	1227	S10	E75	.964	12906	7.1	6	SB		C	1227					E
UPIC	01	1227U	1231	1229	S10	E73	.954	12906	7.0	4U	1N			1229	1.05				
BOUL	01	1433	1456	1443	S10	E72	.949		7.0	23	1N		C	1443	.75	2.12			
RAMY	01	1437	1452	1443	S07	E72	.949		7.0	15	SN	4	V		.33				DE
MCMA	01	1437	1452	1443	S10	E74	.959	12906	7.2	15	SB		C	1443	.41	1.60			D
BOUL	01	1844	1857	1849	S 9	E66	.911		6.7	13	2N		C	1849	2.36	5.67			
MCMA	01	1845	1854	1849	S09	E66	.911	12906	6.7	9	SB		C	1849	.62	1.50			E
RAMY	01	1845E	1854	1849U	S07	E66	.911		6.7	9D	SN	4	V		.66				DE
PALE	01	1845	1856	1850	S09	E68	.925		6.9	11	SN	3	V		1.03				F
MANI	02	0704	0725	0707	S13	E79	.979	12906	8.2	21	1N	2		0707	1.03	2.60			
MITK	02	0705E	0723	0708	S13	E80	.983		8.3	18D	SB		C	0708	.52				D
MANI	03	0213E	0235	0216	S09	E52	.787	12906	7.0	22D	1N	1		0216	2.58	4.10			FH
MITK	03	0221	0255	0228	S09	E51	.776		6.9	34	SB		C	0228	.83	1.30			H
RAMY	03	1924	1942	1927	S07	E46	.718		7.3	18	SB	3	V		.93				DE
PALE	03	1924	1945D	1927	S08	E46	.718	12906	7.3	21D	1N	3	C		1.99				U F
BOUL	03	1925E	1950E	1927	S 7	E45	.706		7.2	25D	1B		C	1927	2.68	3.81			
BOUL	06	1410	1446	1423	N 8	W23	.434		4.9	36	1N		C	1423	3.75	4.06			
RAMY	06	1411	1438	1416	N08	W24	.448		4.8	27	SN	4	C		.56				U S
PALE	07	0014	0019D	0019D	S16	E01	.216	12906	7.1	5D	1N	3	V		3.30				UDE
MITK	07	0519	0545	0529	S18	E17	.375	12906	8.5	26	1F		C	0529	1.96	2.10			
MITK	07	0519	0540	0529	S17	E12	.307	12906	8.1	21	1F		C	0529	2.06	2.20			
MCMA	07	1248	1335	1252	S13	E07	.203	12906	8.1	47	SN		C	1252	1.24	1.20			E
WEND	07	1256	1333		S12	E07	.189	12906	8.1	37	2N		V	1100					
BOUL	07	1309E	1400D	1309U	S12	E 6	.179		8.0	51D	1N		C	1309	3.21	3.23			
MANI	08	0010	0145D	0015	S17	E04	.244	12906	8.3	95D	1N	2		0015	3.30	3.42			F
MITK	08	0012	0044	0020	S16	W 2	.220	12906	7.9	32	1N		C	0020	3.40	3.50			F
MITK	08	0012	0047	0019	S17	E 7	.262	12906	8.5	35	1N		C	0019	3.20	3.30			F
BOUL	08	0016	0110D	0028	S17	E 2	.237		8.2	54D	2N		C	0028	10.71	10.72			
PALE	08	0017E	0145	0017U	S16	E02	.220	12906	8.2	88D	1N	3	C		4.69				DE
BOUL	08	1233	1310U	1235	N 3	E76	.971		14.2	37U	1F		C	1235	.86	2.62			
MANI	09	0200	0210	0204	S13	W15	.304		8.0	10	SF	2		0204	.62	.65			FU
MANI	09	0200	0215D	0215	S13	W15	.304	12906	8.0	15D	1N			0215	2.89	3.02			
MANI	09	0212	0230	0215	S13	W14	.290	12906	8.0	18	1N	2		0215	2.68	2.81			F
PALE	09	0224E	0237	0224U	S12	W14	.281	12915	8.0	13D	1F	3	C		2.17				F
ARCE	09	1032E	1100		S04	W39	.628		6.5	28D	SB		G	1040	.59	.80			F
RAMY	09	1039	1102	1046	S05	W38	.615	12906	6.6	23	1B	4	C		2.88				F H
BOUL	09	1259	1343	1302	S 4	W39	.628		6.6	44	1F		C	1303	3.64	4.69			
RAMY	09	1302	1318	1305	S05	W39	.628		6.6	16	SF	4	C		.46				DE H
BOUL	09	1613	1715	1624	S 4	W40	.642		6.7	62	1N		C	1624	3.32	4.33			
CATA	09	1630E	1645	1635	S05	W41	.655	12906	6.6	15D	1N	3		1635	2.02	2.68		(195)	
BOUL	11	1542	1606	1554	S13	W64	.899		6.9	24	1F		C	1554	.96	2.21			
RAMY	11	1549	1608	1555	S14	W65	.906		6.8	19	SF	4	C		.37				DE
BOUL	12	2139	2244	2157	S18	W62	.887		8.3	65	2N		C	2157	4.82	10.41			
PALE	12	2141	2231	2210U	S16	W63	.893	12906	8.2	50	1N	3	C		1.18				DE
PALE	12	2141	2231	2156U	S16	W63	.893	12906	8.2	50	1N	3	C		1.44				DE
BOUL	13	0023	0045D	0041	S16	W65	.908		8.1	22D	1F		C	0041	1.71	4.87			
PALE	13	0038	0125	0102	S15	W65	.907		8.2	47	1N	3	C		1.35				F
PALE	13	0038	0125	0043	S15	W65	.907		8.2	47	SF	3	C		.81				F
ARCE	13	1145E	1155D		S11	W63	.891		8.8	10D	SF		C	1150	.36	.80			
CATA	13	1147E	1157D	1152	S13	W63	.891	12906	8.8	10D	1B	3		1152	1.16	2.55		(224)	
BOUL	13	2115E	2328D	2129U	S11	W64	.898		9.1	133D	3N		C	2129	6.96	16.00			
PALE	13	2131E	2148D	2139U	S13	W65	.906	12906	9.0	17D	2N	1	V		6.19				F
MCMA	25	1702	1714		S11	E90	1.000	12972	1.5	12	1N		P	1710					
CATA	26	1030E	1220D	1030	S16	W37	.633	12921	23.7	110D	1B	3		1030	1.73	2.24		(209)	
UPIC	28	0849	0903U	0854U	S15	W63	.896	12968	23.6	14U	1N			0854	1.26				
UPIC	28	1149U	1200U	1155	S13	W67	.923	12968	23.5	11U	1N			1155	1.47				
UPIC	28	1207	1213	1209U	S13	W68	.929	12968	23.4	6	1N			1209	1.05				

SOLAR FLARES

PARTIAL LISTING

Solar Flares for which at least one observatory has assigned a numerical importance of "1" or greater.

MAY 1974

OBSERVATORY	DATE MAY	OBSERVED UT START	OBSERVED UT END	OBSERVED UT MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION CENTRAL DISTANCE	LOCATION MCMATH PLAGE REGION	LOCATION CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND. TYPE	MEASUREMENTS TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT. %	REMARKS
CATA	30	0720	0730	0725	S22	E90	1.000	12974	6.1	10	2N	3	0725	2.31			(162)	
UPIC	30	0724E	0748U		S25	E90	1.000	12974	6.1	24U	1B		0734	.42				
UPIC	30	1452E	1506U		S20	E86	.997	12974	6.1	14U	1N		1452	.42				
MANI	30	2252E	2310	2252U	S14	E84	.994	12974	6.3	18D	1N	1	2252	.83	2.30			
MANI	31	0159E	0207D	0205	S16	E80	.985		6.1	8D	1N	1	0205	.93	2.38			
CATA	31	0955E	1050	1020	S15	E75	.967	12974	6.0	55D	1B	3	1020	1.73			(214)	

Note: Catania and Capri-S express Maximum Intensities in percent of the local undisturbed chromosphere instead of percent of the local continuum. Parentheses are used to indicate this difference.

"Remarks":

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by a high speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H and K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked assymetry in Hα line suggests ejection of high velocity material.
S = Brightness follows disappearance of filament (same position).
T = Region active all day.
U = Two bright branches, parallel (||) or converging (Y).
V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

SOLAR FLARES

Date, time (UT) and coordinates of Subflares not included in preceding table.

MAY 1974

01 0357E N08 W16
02 0354 N07 E36
02 1354 S07 E62
02 1937E S12 E61
02 2247E N 8 W47

03 1400 S08 E45
03 2113 S 8 E41
04 0226 S05 E33
05 0230 N06 W47
05 1349 S14 E33

05 2304E S10 E21
06 1225E N10 W56
06 1512E N10 W59
06 2219 S12 E09
07 0003E S14 E15

07 1141 S05 W12
07 1520E S13 E07
07 1811 S06 W16
07 2219E S06 W18
08 0150 S11 E02

08 0606 N04 E79
08 1840 S09 W20
09 0410 S04 W33
09 2153E S13 W32
10 1500 S12 E30

11 1220 S11 W32
12 0210 N12 W20
12 2213 S13 W47
13 0940E S13 W53
16 2309 N 7 W43

17 2347E N06 W51
21 2009 S13 E25
26 1519 S02 E77
27 1040E S18 W50
27 1716 S14 W55

27 1934E S15 W56
28 1910 S14 E65
30 1844 S12 E09

01 1310 S 9 E69
01 1313E S07 E68
02 0415 S06 E62
02 1504 S11 E36
02 1537E N 6 W45
03 0137 S10 E57

03 1456 S07 E45
03 2120 S12 E42
04 0312 S08 E38
05 0233E N05 W47
05 1732 S15 E29

06 0354 S04 W07
06 1225E N08 W58
06 1518 S14 E16
06 2239 S18 E31
07 0126 S04 W22

07 1213 S13 E07
07 1647E S14 E18
07 1813E S08 W16
07 2222 S14 E15
08 0237 S06 W21

08 1218 S13 W08
08 1844E S08 E18
09 0824 S04 W36
09 2245E S05 W45
10 2341 S13 W45

11 1319 S15 W27
12 1455E S05 W80
12 2213 S13 W47
13 1356 S11 W56
16 2341E N08 W43

18 2054 N05 W69
21 2009 S15 E21
26 1521 S 4 E76
27 1443 S15 E74
27 1723 S13 E79

27 2003 S13 E87
29 0648 S11 E68
31 0329E S14 E78

01 1313E S07 E68
02 0451 S13 E81
02 1513 S13 E76
02 2030E N 7 W46
03 0702 S09 E47

03 17371 S08 E43
03 2302 S 5 E36
04 0315E S09 E37
05 0321 S06 E34
05 2023 S13 E27

06 0448E N04 W61
06 1332E N10 W58
06 1925E S04 E19
06 2239 S18 E31
07 0235 S12 E10

07 1213 S13 E07
07 1653E S14 E18
07 1848 S 7 W16
07 2223 S13 E14
08 0258 S11 E01

08 1225U S 4 W38
08 2129 S13 W13
09 0829E S05 W37
09 2335E S 3 W43
11 0217E S13 W47

11 1320 S12 W28
12 1603 S15 W80
12 2240 S10 W47
13 1356 S11 W57
17 0307E N07 W45

19 1337 N21 W74
23 1435 N09 E28
27 0317E S15 W46
27 1520 S16 W50
27 1723 S13 E79

27 2111E S18 W53
30 1344 S12 E83
31 1200E S08 E14

01 2305E S14 E85
02 0604 S13 E79
02 1526 S13 E76
02 2033E N08 W46
03 0702 S09 E48

03 1810 S10 E42
04 0049 S10 E40
04 0831U S04 E18
05 1038E S03 E01
05 2155 S18 E32

06 0525E S15 E25
06 1418 N11 W58
06 1938 S 9 E79
06 2252 S15 E34
07 0726 S13 E10

07 1453 N03 W29
07 1805 S11 E04
07 1930 S05 W17
07 2301 S10 E04
08 0448 S11 W00

08 1545 S05 W40
09 0136 S12 W01
09 1407 S 4 W40
10 0807 S02 W73
11 0450 S14 W58

12 2008 S15 W67
12 1604 S13 W85
12 2253 S40 W82
13 1401 S11 W56
17 1533 N 8 W51

19 1640E N 7 W76
25 1524 S03 E77
27 0832 S13 W50
27 1521 S15 W54
27 1732 S13 E83

27 2223E S17 W57
30 1605 S10 E79
31 1543 S17 E57

01 2306 S15 E85
02 0028 S12 E74
02 1527 S11 E75
02 2133E N08 W46
03 0703 S09 E51

03 1810 S08 E44
04 0049 S10 E40
04 0831U S04 E18
05 1348 S16 E35
05 2155 S18 E32

06 0743E N10 W54
06 1449 S14 E20
06 1938 S 9 E79
06 2252 S15 E34
07 0732 S11 E75

07 1454 S03 W28
07 1807 S10 E03
07 2010D S11 E17
07 2304E S10 E04
08 0500 S04 W35

08 1546 S 4 W40
09 0213 S12 E16
09 1410E S06 W40
10 0810 S03 W74
11 0807 S11 W44

12 0025 S15 W36
12 1604 S06 W80
12 2257E S41 W80
15 0200 S13 W85
17 1829E N06 W53

19 2324 N 7 W78
25 1741 S16 W28
27 0835 S14 W52
27 1526 S17 W51
27 1741 S15 W54

28 1055 S14 W64
30 1605 S11 E80
31 2026E S14 E69

02 0239E N08 E36
02 1151 S12 E78
02 1937 S09 E60
02 2139 N 7 W47
03 1242 S08 E46

03 1812 S06 E46
04 0222 S03 E34
04 0910E S04 E18
05 1349 S14 E33
05 2245E S19 E35

06 0814E N10 W54
06 1450 N10 W58
06 2218E S11 E09
06 2302E S17 E31
07 1110 S06 W12

07 1519 S13 E05
07 1810 S08 W15
07 2027E S13 E03
07 2312E S11 E03
08 0514 S12 W01

08 1837 S 9 W18
09 0408 S05 W35
09 1412E S05 W39
10 1427 S05 W54
11 0814E S08 W48

12 0028 S13 W35
12 1740 S06 W82
12 2350E S41 W80
15 1025E S11 W83
17 1921 N08 W54

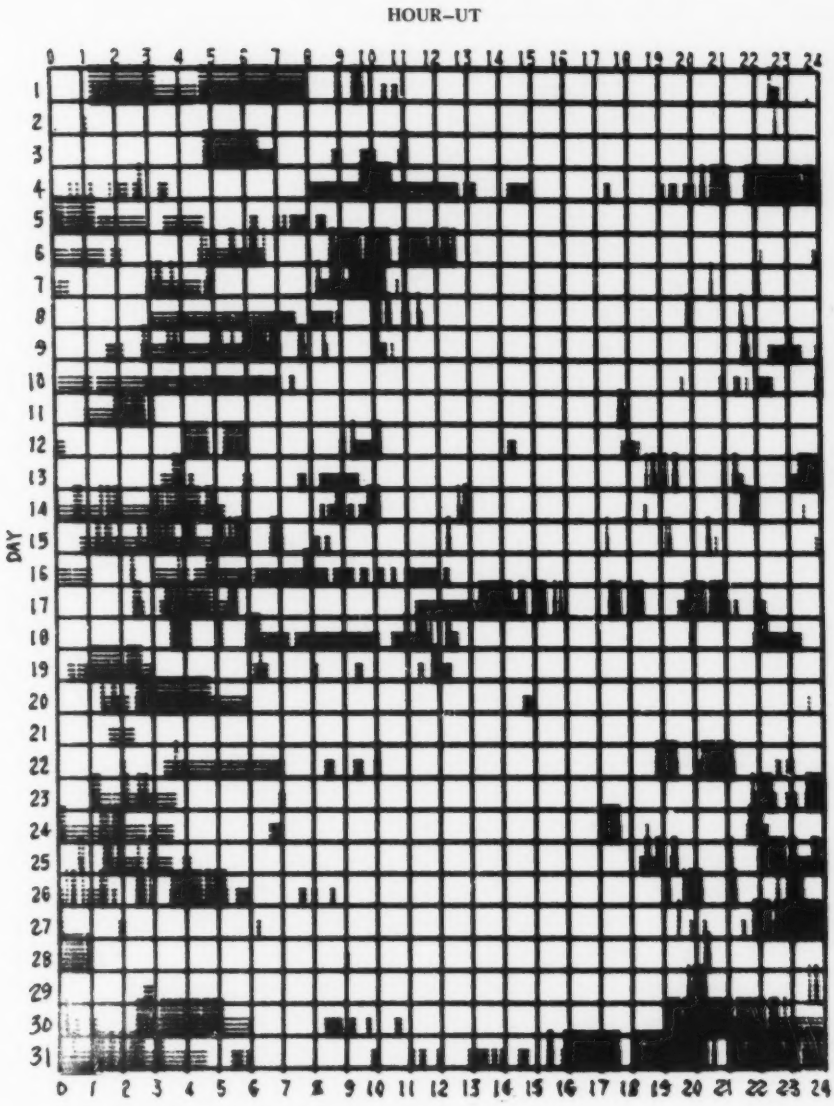
21 2004 S12 E21
25 1748E S15 W28
27 0855E S15 W49
27 1530 S16 W52
27 1846 S13 W57

28 1239 S17 W67
30 1635 S11 E78

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

MAY 1974



Observatories included in total patrol:

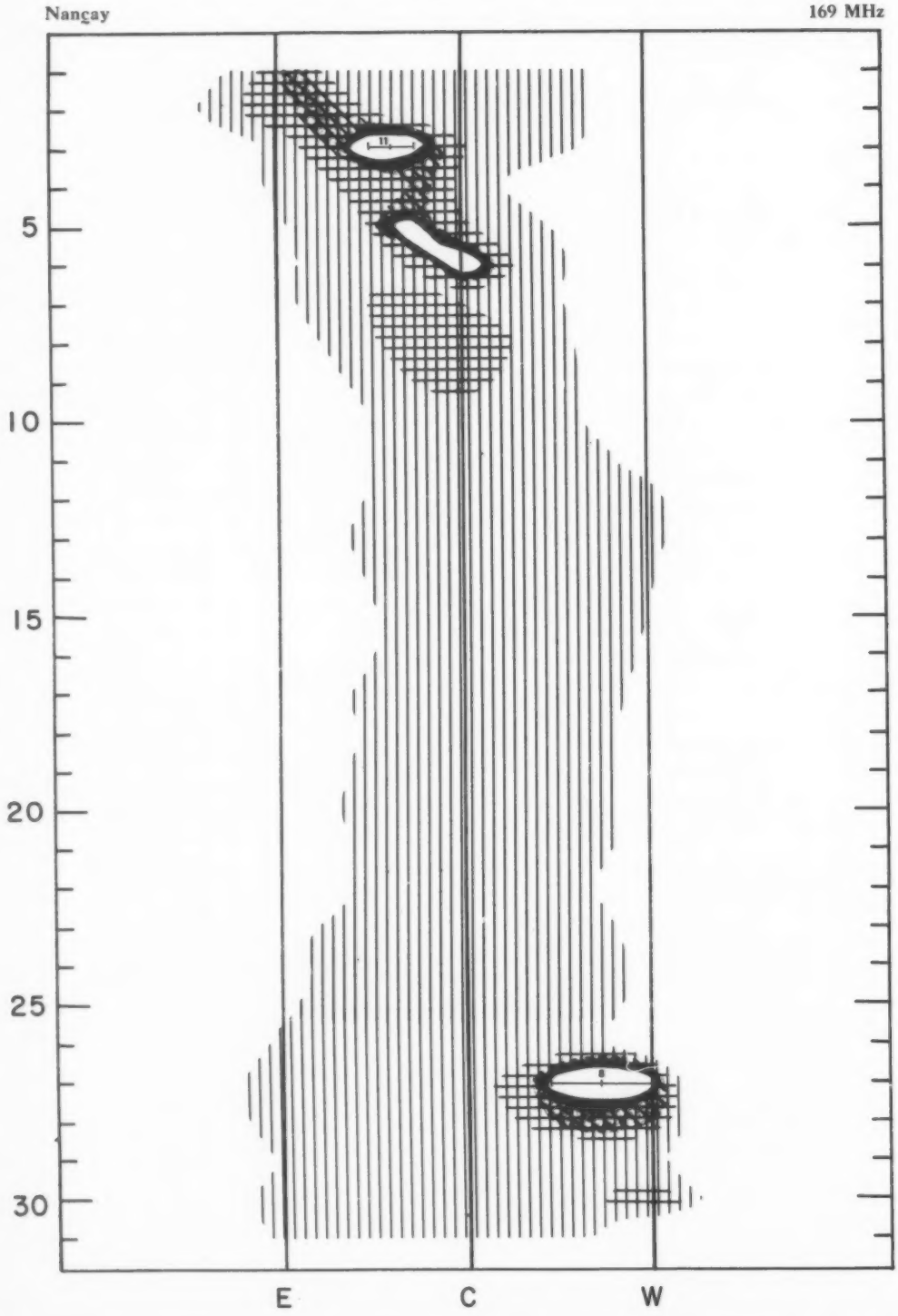
Arcetri	Bucharest	Manila	Palehua	Upice
Athenes	Catania	McMath-Hulbert	Ramey	Wendelstein
Boulder	Herstmonceux	Mitaka	Tehran	

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

14
May 74

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

MAY 1974

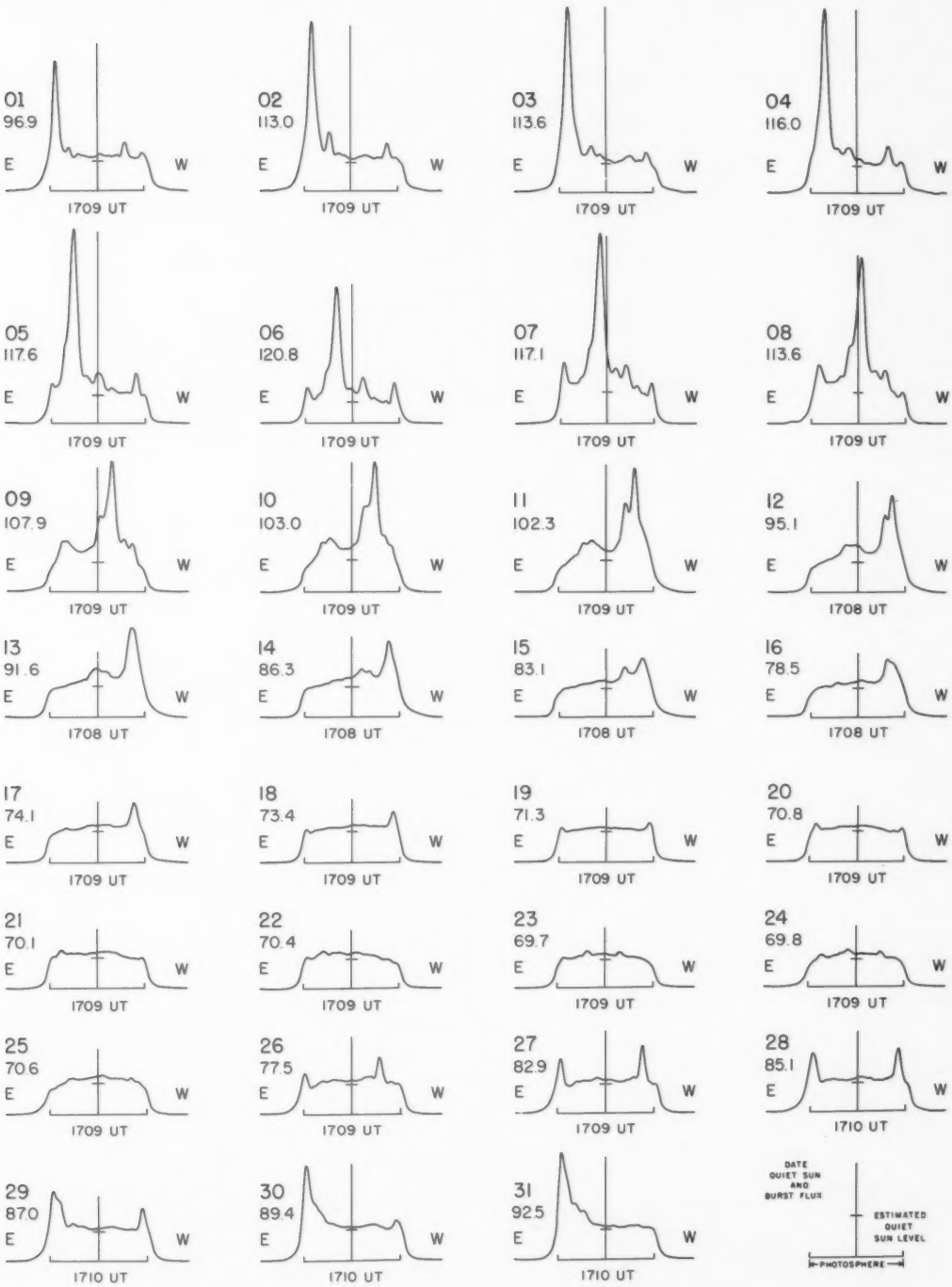


EAST-WEST SOLAR SCANS

May 1974

ALGONQUIN RADIO OBSERVATORY
CANADA

10.7 cm
Fan-Beam with 1.5 minutes of arc
E-W Resolution



16
May 74

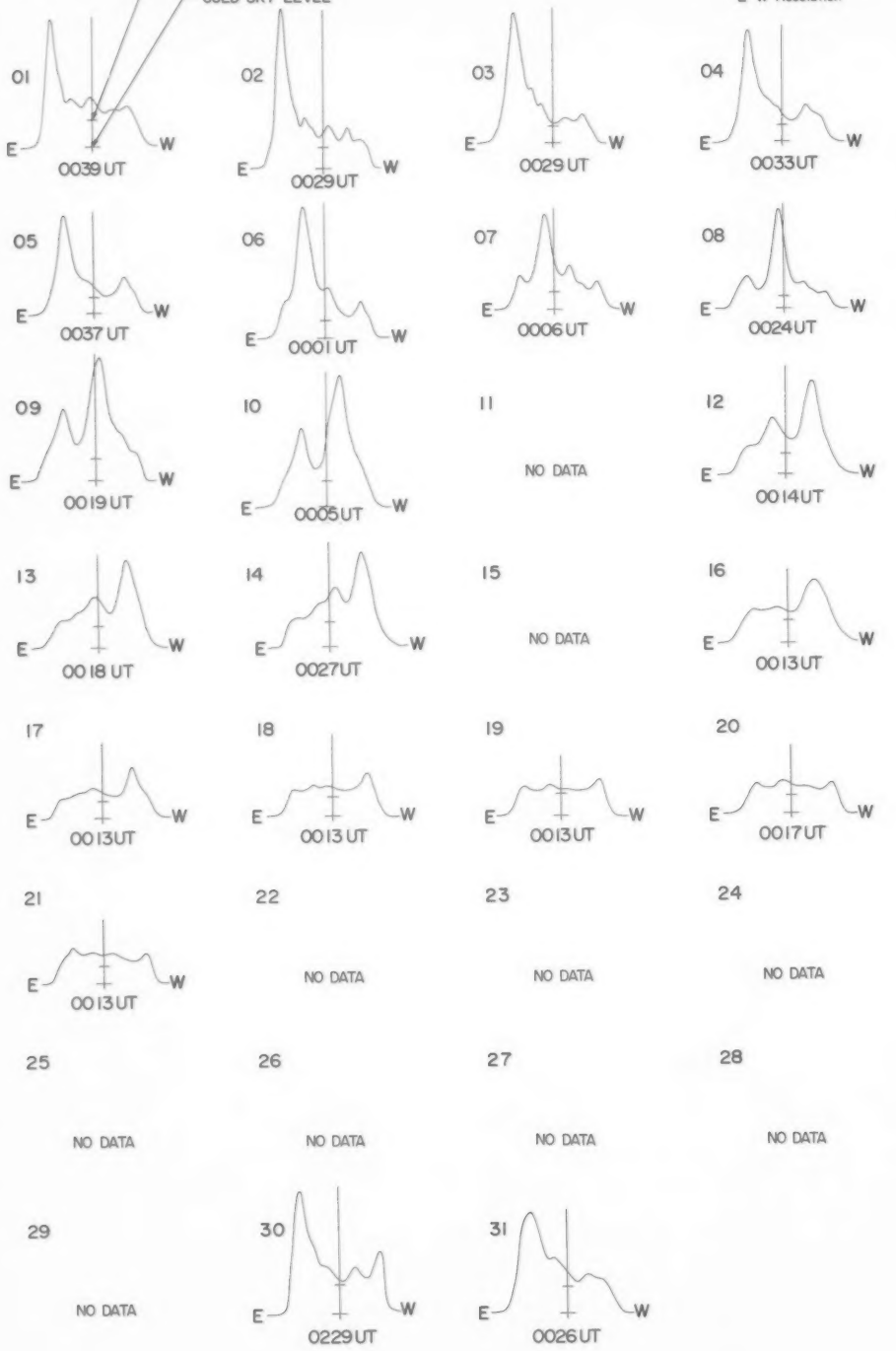
EAST-WEST SOLAR SCANS

MAY 1974

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL
COLD SKY LEVEL

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution



EAST-WEST SOLAR SCANS

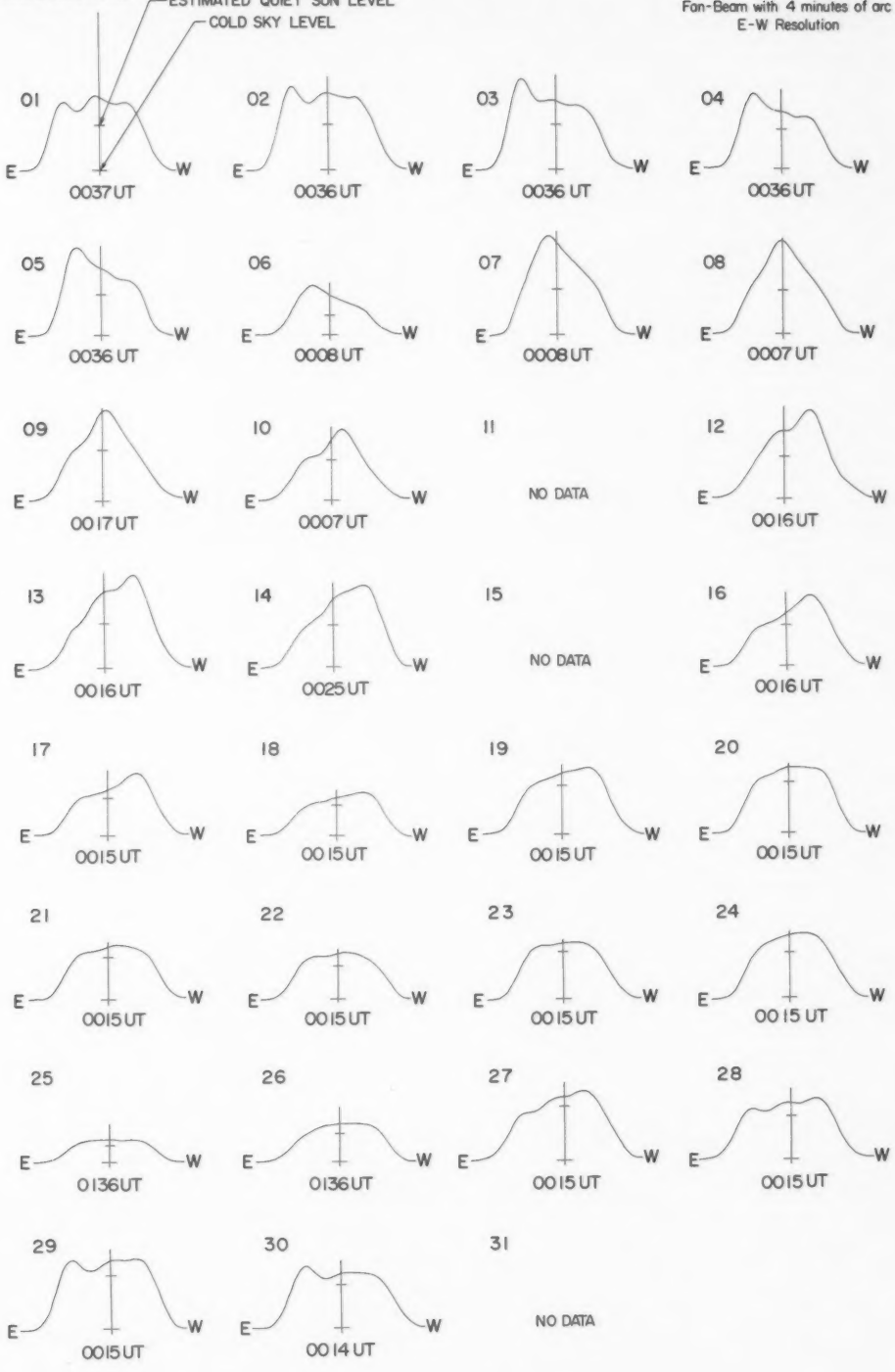
MAY 1974

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL

COLD SKY LEVEL

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

MAY 1974

MAY 1974	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
1	8800	SGMR	1	1006.1	1006.5	.5	3.9	1.0		
	2695	SGMR	1	1006.1	1006.2	.7	2.8	.8		
	2800	OTTA	24	1105	1140	35	5.6	2.8		
	2800	OTTA	24	1140		180	5.6			
	2800	OTTA	2	1224	1226	6	8.4	2.4		SPIKE=23FU
	8800	SGMR	46	1225.2	1226	6.1	13.2	3.6		
	8800	SGMR	46		1228.1		18.1			
	2695	SGMR	46	1225.1	1226	4.1	6.9	3.4		
	2695	SGMR	46		1228.8		17.0			
	2800	OTTA	31	1230	1238	35	-4.0	-2.0		
	2800	OTTA	8	1237	1237.2	.2	2.0			
	2800	OTTA	32	1440	1510	60	-4.6	-2.6		
	2800	OTTA	67	1740		35	.8			
	2800	OTTA	32	2230	2240	25	-1.8	-0.9		
	2695	PENT	24	2300	2350	50	3.4	1.7		
	2695	PENT	24	2350		120 D	3.4			
2	2695	PENT	32	0035	0050	35	-3.4	-1.7		
	2800	OTTA	41	1235		40	1.8			
	2800	OTTA	20	1235	1237	20	1.8	0.9		
	2800	OTTA	20	1300	1302	15	1.8	0.9		
	2800	OTTA	20	1330	1333	12	2.6	1.3		
	2800	OTTA	22	1445	1537	180	4.8	2.4		
	2695	SGMR	22	1534.1	1538.1	16.9	3.5	2.1		
	2695	SGMR	2	1558.1	1559	4.3	1.8	1.1		
	2800	OTTA	32	1950	2040	120	-2.2	-1.1		
	8800	SGMR	2	2023.2	2025.6	8.7	7.6	3.0		
3	8800	MANI	4	0210.8	0211.7	11	98.0	29.4		
	2695	MANI	4	0210.8	0212	10.8	123.0	28.5		
	8800	MANI	3	0325.4	0329	9	15.7	3.9		
	8800	MANI	3	0701.4	0701.8	1.1	31.4	7.8		
	2695	MANI	1	0701.4	0701.8	1.2	5.7	1.0		
	2800	OTTA	8	1242	1242.2	.5	2.2	1.1		
	2695	SGMR	1	1242	1242.1	1.5	2.1	.6		
	2695	BOUL	8	1400.5	1401.5	2	9.0	3.0		
	2695	SGMR	1	1400.7	1401.2	1.1	6.9	2.1		
	2695	PENT	41	1400.7	1406	6.5	10.0			
	2800	OTTA	1	1400.7	1401	1.5	7.4	2.5		
	2695	PENT	3	1405.8	1406	1.5	10.0	2.0		
	2800	OTTA	1	1456	1456.5	1.5	1.0	0.5		
	2800	OTTA	67	1505		195	2.6			
	2695	BOUL	3	1810.5	1811.5	1.5	4.0	1.0		
	2800	OTTA	41	1811	1817.7	8	4.0			
	2800	OTTA	1	1811	1811.2	1	1.6	0.8		
	2800	OTTA	8	1817.5	1817.7	.3	4.0			
	2800	OTTA	1	1818	1818.5	1	.8	0.4		
	2800	OTTA	1	1900.2	1901	2	1.0	0.5		
	2695	BOUL	3	1900.5	1901.5	2.5	3.0	1.0		
	8800	SGMR	4	1924.8	1925.9	18.9	47.6	14.3		
	2695	SGMR	4	1924.6	1925.8	19	80.9	24.3		
	2800	OTTA	4	1924	1925.8	6	54.0	14.0		
	2695	BOUL	8	1925	1926.5	5	44.0	15.0		
	2800	OTTA	29	1930	1930	135	2.4	1.2		
4	2800	OTTA	20	1219	1225	40	2.0	1.0		
	8800	SGMR	2	1602.9	1603.3	4.4	7.8	2.3		
	2800	OTTA	20	1635	1643	25	1.2	0.6		
	2800	OTTA	22	1725	1817	105	3.4	1.5		
	2800	OTTA	1	2155	2155.5	1	1.2	0.6		
	2695	PENT	1	2257	2258.5	3	1.2	0.6		
5	2695	BOUL	3	0112.5	0113	1	4.0	1.0		
	2800	OTTA	26	1212	1310	58	-2.0	-1.0		
	8800	SGMR	1	1348.4	1349.1	5	9.1	2.7		
	2800	OTTA	21	1350	1400	45	2.6	1.3		
	2695	BOUL	3	1352.5	1356	8	6.0	2.0		
	2800	OTTA	1	1353	1355.5	4	5.4	2.7		
	8800	SGMR	3	1731.1	1731.5	7.5	10.0	3.0		
	8800	SGMR	1	2020.4	2024.4	6.8	3.2	1.0		
	2800	OTTA	1	2022	2022.8	4	2.6	1.3		
	8800	SGMR	20	2029.9	2031.9	12.9	10.0	6.0		
	2695	SGMR	20	2030.6	2033	11.6	5.5	3.3		
	2800	OTTA	22	2153	2202	25	2.0	1.1		
	2800	OTTA	20	2240	2250	40	3.0	1.5		
6	2695	SGMR	1	1533.9	1534.8	2.4	1.6	.5		
	2695	PENT	67	1706		44	1.6			
	2800	OTTA	1	1707	1708	4	3.0	1.5		
7	2695	MANI	4	0523.8	0527.6	9	35.6	8.9		
	8800	SGMR	4	1213.1	1214	1.5	17.6	5.3		
	2695	SGMR	4	1212.9	1214.2	2.7	14.9	4.5		
	2800	OTTA	4	1213	1214	3	19.0	13.8		
	8800	SGMR	30	1214.6	1214.6	61.4U	7.0	2.6U		
	2695	SGMR	30	1215.6	1215.6	61.6	6.5	2.6		
	2800	OTTA	29	1216	1216	22	9.0	3.0		
	2800	OTTA	67	1247		140	3.4			
	2695	SGMR	22	1248.1	1252.1	26.5	6.2	1.9		
	2800	OTTA	2	1249	1252	8	6.2	3.1		

Note: 67 = oscillation (see example on page 22).

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS
MAY 1974

MAY 1974	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
	8800	SGMR	1	1251 U	1252.9	2.6U	4.7	1.4U		
	2800	OTTA	1	1518	1519.2	6	2.6	0.8		
	2695	PENT		1518	1519.2	6	0.0	0.0		NULL
	2695	SGMR	1	1518	1519	1.7	2.2	.6		
	2695	BOUL	3	1518.5	1519.5	1.5	2.0	1.0		
	2800	OTTA	22	1805	1809	25	2.4	1.2		
	2800	OTTA	20	1912	1945	60	2.0	1.0		
	2800	OTTA	20	2105	2112	25	3.2	1.6		
	2695	PENT	20	2250	2305	30	1.4	0.7		
	2695	BOUL	3	2311.5	2313.5	2.5	3.0	1.0		
8	8800	MANI	4	0013.5	0015.7	27.4	56.0	18.7		
	2695	PENT	3	0008	0015.5	22	248.0	59.0		
	2695	MANI	4	0009.3	0015.7	32.8	210.0	42.0		
	2695	BOUL	3	0012	0016.5	15	127.0	45.0		
	2695	PENT	29	0030	0030	70 D	15.8			
	2695	MANI	1	.0244.4	0244.8	.8	5.5	1.8		
	2695	MANI	4	0513.7	0515.5	10.9	10.0	36.0		
	8800	SGMR	1	1550.4	1550.5	.3	4.0	1.2		
	2695	SGMR	1	1550.4	1550.5	.3	9.5	2.9		
	2800	OTTA	20	1710	1712	15	2.6	1.3		
9	2695	SGMR	22	1038.7	1040	13.9	6.7	4.0		
	2695	SGMR	1	1258.9	1259.4	1.4	2.4	.7		
	2695	BOUL	3	1416	1416.5	1.5	4.0	1.0		
	8800	SGMR	4	1623.7	1624.2	5.3	16.0	4.8		
	2695	SGMR	4	1623.4	1624.1	4.1	19.9	6.0		
	2800	OTTA	3	1623.2	1624	2.3	18.8	9.2		
	2695	BOUL	8	1623.5	1624	3.5	20.0	7.0		
	2800	OTTA	29	1625.5	1625.5	5	1.6	0.8		
11	2800	OTTA	27	1215		370	2.2	1.9		
	2800	OTTA	24	1215	1320	65	2.2	1.1		
	2800	OTTA	24	1320		280	2.2			
	2800	OTTA	20	1505	1605	90	1.2	0.6		
	2800	OTTA	26	1800	1825	25	-2.2	-1.1		
12	2695	BOUL	21	2138.5	2145	44.5	16.0	4.0		
	2800	OTTA	1	2143.5	2145	9.5	8.2	4.1		
	2800	OTTA	21	2148	2156	70	5.8	2.9		
	8800	MANI	3	2202.2	2202.9	1.3	14.4	54.0		
13	2695	PENT	22	0035	0058	70 D	3.8			
	2800	OTTA	28	2100	2115	20	3.4	2.4		
	2695	BOUL	45	2110.5	2126	48.5	203.0	38.0		
	8800	SGMR	22	2121 U	2127	13 U	19.0	11.4U		
	2800	OTTA	4	2120	2125.3	25	262.0	22.6		PENT=375FU
	2695	SGMR	4	2123 U	2125.4	8 U	159.0	46.2U		
	2800	OTTA	29	2145	2145	135	6.2	3.1		
15	2800	OTTA	26	1228	1248	20	-1.8	-0.9		
27	2800	OTTA	20	1529	1540	45	1.6	0.8		
	2695	SGMR	3	1724.9	1725.8	3.1	45.4	13.7		
	2800	OTTA	1	1725	1725.8	2.5	7.8	2.6		
	2695	BOUL	8	1725.5	1726.5	1.5	37.0	16.0		
	2800	OTTA	8	1725.8	1725.8		48.0			
	2800	OTTA	1	2219.8	2220	1	1.8	0.9		
	2800	OTTA	1	2226	2226.5	1	1.4	0.7		
28	2800	OTTA	20	1140	1200	90	1.4	0.7		
	2800	OTTA	24	1810	1920	70	1.6	0.8		
	2800	OTTA	24	1920		385 D	1.6			
30	8800	SGMR	1	1346	1346.6	2	3.2	1.0		
	8800	SGMR	1	1446.9	1450.4	6.6	4.4	1.3		
	2800	OTTA	1	1450	1450.3	1	1.4	0.7		
31	2800	OTTA	21	2100	2305	160	2.6	1.3		
	2800	OTTA	20	2136	2144	75	5.6	2.6		

Observatories:

BOUL = Boulder MANI = Manila OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill

Explanation of Type Code:

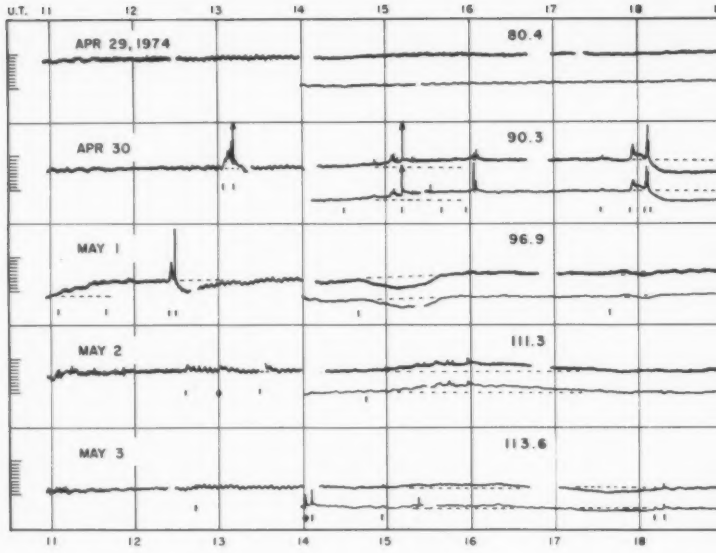
1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

SERIES OF UNUSUAL MICROWAVE ABSORPTIONS, April 30, May 1, 2 and 3, 1974

May 28, 1974
A.E. Covington

The variations in the microwave solar emission observed at ARO and at DRAO for the end of April and the beginning of May have been copied in detail from the slow speed records of 1 1/2 inches per hour in order to show profiles of bursts which do not occur frequently. The two traces have been editted to remove operational marks and in the accompanying photograph, one is displaced with respect to the other so that features in common can be readily recognized as being of true solar origin. The legend in the photograph gives a list of features to be noted in separating solar bursts from the quiet sun level. The records for April 29 do not have any bursts but do show a steady increase of the solar flux throughout the day which is also verified by the calibration; 80.9 flux units on the 29th and 90.3 on the 30th.

A list of events has been made from the monthly report together with starting times, type of burst and Solar Geophysical Data Code. Examples of the 'Oscillation' type of event shown for May 1 and 3 are not as outstanding as the prototype variation which occurred on March 30, 1966. The oscillatory event consists of a single burst of emission followed immediately by an absorption, or absorption followed by emission and are approximated by a single cycle of a sinusoid. A series of small oscillations of short duration was noted during the decline of the event of Aug. 1, 1949 as shown in Fig. 5 of Jour. Roy. Astro. Soc. of Can., page 53, Vol. 45, 1951. In keeping with past experiences, the observer at ARO correctly identified some of the absorptive events as caused by local snow storm and it was only the subsequent confirmation of the same feature from the DRAO records that enabled the true solar origin to be established.



SOLAR NOISE VARIATIONS AT 2800 MHz AND 2700 MHz COPIED FROM RECORDS MADE AT ALGONQUIN RADIO OBSERVATORY–ARO–AND FROM DOMINION RADIO ASTROPHYSICAL OBSERVATORY – DRAO.
(RECORDS 1 $\frac{1}{2}$ INCH PER HOUR)

DETAILED TRACE OF RESIDUAL RECEIVER NOISE

SMOOTH TRACE OF RESIDUAL RECEIVER NOISE

DETAILED
SMOOTHED
ATMOSPHERIC SCINTILLATIONS FOLLOWED BY RECEIVER NOISE

DETAILED
SMOOTHED
INTERFERENCE BETWEEN DIRECT AND REFLECTED WAVES FOLLOWED BY RECEIVER NOI

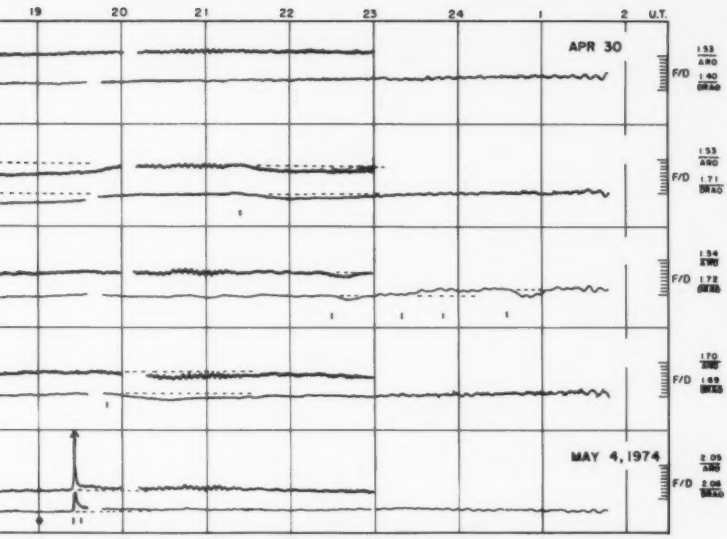
QUIET DAILY SOLAR EMISSION AS ZERO REFERENCE FOR BURST

GAP IN RECORD FOR CALIBRATION OR OTHER ADJUSTMENT

OR START OF BURST ↑ BURST PEAK NOT SHOWN, OFF SCALE

XX.X DAILY LEVEL OF QUIET SUN, 2800 MHz SERIES C – OBSERVED VALUES

F/D $\frac{XXX}{ARO}$ FLUX PER SMALL DIVISION AT OBSERVATORY INDICATED



DESCRIPTION OF SELECTED FEATURES FROM MONTHLY REPORTS

SOME LETTER SYMBOLS SUGGESTED BY UNDERLINES

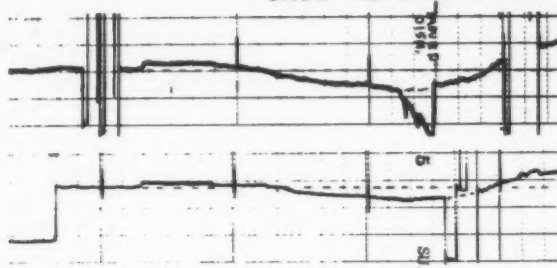
	START	BURST TYPE	SGD CODE
APR 29	-----	NO BURSTS, ONLY QUIET SOLAR LEVEL	---
APR 30	13 03	SIMPLE III A F GRADUAL RISE & FALL	23
	13 10	SPIKE	8
	14 30	RISE ONLY A	25
	15 40	POST RISE ENHANCED LEVEL	24P
	17 33	SIMPLE I	1
	17 54	COMPLEX (2)	46
	18 09	POST BURST DECREASE	31
	21 25	ABSORPTION	32
MAY 1	11 05	RISE ONLY	240
	11 40	POST RISE ENHANCED LEVEL	24P
	12 24	SIMPLE I F	2
	12 30	POST BURST DECREASE	31
	12 37	SPIKE	8
	14 40	ABSORPTION	32
	17 40	OSCILLATION	—
	22 30	ABSORPTION	32
	23 20	RISE ONLY	240
	23 50	POST RISE ENHANCED LEVEL	24P
MAY 2	00 35	ABSORPTION	32
	12 35	GROUP (2) 2 SIMPLE III BURSTS OBSCURED IN RIPPLE	41
	14 45	SIMPLE III F GRADUAL RISE AND FALL	22
	19 50	ABSORPTION	32
MAY 3	12 42	SPIKE	8
	14 01	GROUP (2)	41
	14 56	SIMPLE I	1
	15 05	OSCILLATION	—
	18 11	GROUP (2)	41
	19 20	SIMPLE II IMPULSIVE BURST	4
	19 30	POST BURST INCREASE	29

MAR 30, 1966

SNOW REMOVED FROM

A.R.O.

D.R.A.O.

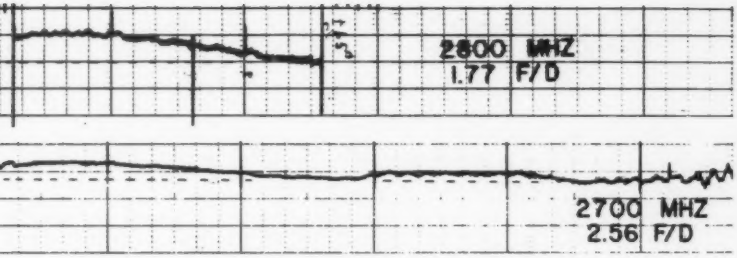


17 18 19 20

BURST

START U.T.	ORIGINAL	TYP
17:17	SIMPLE 3	R
18:10	ABSORPTION	>
19:55	SIMPLE 3	
22:55	SIMPLE 3	R
01:13	SIMPLE 1	S

M DISH



21 22 23 24 01

CLASSIFICATIONS

TYPE REVISED	DURATION MIN	PEAK FLUX
RISE & FALL	48m	2.2
OSCILLATION	105	−6.0
	145	+8.8
RISE & FALL	85	2.6
SPIKE	1	7.0

PIONEER IX

MAY 1974

Date May 1974	DSN Coverage (UT)	Data Time (UT)	ESP (°)	SOLAR WIND[1]				IP E-FIELD[2]	IMF[3]		COSMIC RAY PROTONS[4] (particles/sec)	
				U_{H^+} (km/sec)	N_{H^+} (H^+/cc)	T_{H^+} (x10^{6}°K)	TAU (days)	400 Hz (mv)	|B| (γ)	φ (°)	>13.9 Mev	>40 Mev
15	0419-1158	0500	-102.6	475.	---	---	-7.22	0.106	6.6	151	6.39	1.03
		0600		475.	---	0.746		.102	6.5	147	6.07	1.31
		0700		493.	---	.26		.095	6.5	141.	6.18	1.31
		0800		438.	---	---		.095	6.5	146.	6.2	1.26
		0900		---	---	---		---	---	---	---	---
		1000		412.	---	.155		.088	6.5	151.	6.1	1.01
		1100		411.	---	.223		.095	6.6	156.	6.37	1.13
		1200		542.**	---	---		.081	6.8	176.	6.16	1.24
16	1144-2036	1200	-102.8	430.**	---	---	-7.25	.091	6.4	138.	6.34	1.17
		1300		390.**	---	---		.088	6.4	135.	6.4	1.19
		1400		404.**	---	---		.097	6.5	138.	6.14	1.19
		1500		430.**	---	---		.081	6.1	135.	6.36	1.24
		1600*		486.**	---	---		.109	6.4	138.	6.14	1.19
17	1350-2127	1400	-102.9	363.	---	.042	-7.2	.25	6.5	128.	6.12	1.24
		1500		361.	---	.021		.258	6.8	140.	6.33	1.24
		1600		---	---	---		.243	7.1	116.	6.22	1.34
		1700		367.	---	.027		.187	7.5	139.	6.36	1.31
		1800		359.	---	---		.233	7.4	139.	6.18	1.13
		1900		358.	---	---		.167	6.6	136.	6.16	1.07
		2000		358.	---	---		.172	6.7	133.	6.31	1.27
		2100		355.	---	.017		.171	7.2	140.	6.14	1.2
18	1322-2130	1400	-103.3	369.	---	.055	-7.21	.218	5.8	103.	6.36	1.16
		1500		352.	---	---		.163	5.1	198.	6.39	1.24
		1600		357.	---	.061		.136	4.9	227.	6.42	1.1
		1700		376.	---	.072		.133	4.3	348.	6.47	1.53
		1800		353.	---	---		.148	3.8	152.	6.46	1.18
		1900		338.	---	---		.133	5.	228.	6.5	1.09
		2000		325.	---	---		.117	5.3	193.	6.38	1.17
		2100		336.	---	---		.132	4.8	218.	6.49	1.2
19	1322-2126	1400	-103.4	315.	---	.029	-7.19	.148	6.7	103.	6.43	1.19
		1500		314.	---	---		.164	6.6	097.	6.63	1.1
		1600		314.	---	---		.14	6.6	099.	6.49	1.27
		1700		313.	---	---		.14	6.	091.	6.5	1.14
		1800		310.	---	---		.113	5.4	099.	6.5	1.34
		1900		309.	---	---		.121	5.2	108.	6.43	1.13
		2000		316.	---	.023		.125	5.8	099.	6.6	1.31
		2100		309.	---	---		.121	5.9	095.	6.55	1.27
20	1324-2126	1400	-103.6	312.	---	---	-7.15	.163	4.5	081.	6.67	1.21
		1500		297.	---	.03		.171	3.1	056.	6.55	1.4
		1600		295.	---	.027		.148	4.3	061.	6.68	1.38
		1700		---	---	---		---	---	---	---	---
		1800		281.	---	.035		.129	---	---	6.6	1.31
		1900		287.	---	---		.148	5.	092.	6.63	1.2
		2000		282.	---	---		.136	4.8	073.	6.67	1.23
		2100		278.	---	---		.14	4.7	087.	6.64	1.24
21	1320-2126	1400	-103.7	280.	---	.042	-7.15	.148	10.7	078.	6.71	1.2
		1500		276.	---	.043		.156	9.3	032.	6.68	1.26
		1600		274.	---	.046		.155	8.3	333.	6.77	1.2
		1700		270.	---	---		.144	8.8	326.	6.65	1.24
		1800		276.	---	---		.14	9.2	306.	6.81	1.21
		1900		274.	---	---		.163	12.4	294.	6.6	1.34
		2000		273.	---	.028		.148	10.3	297.	6.69	1.6
		2100		266.	---	.032		.155	8.5	280.	6.61	1.21

PIONEER IX

MAY 1974

Date MAY 1974	DSN Coverage (UT)	Data Time (UT)	ESP (°)	SOLAR WIND[1]				IP E-FIELD[2]	IMF[3]		COSMIC RAY PROTONS[4] (particles/sec)	
				U_{H^+} (km/sec)	N_{H^+} (H^+/cc)	T_{H^+} ($\times 10^{6}$°K)	TAU (days)	400 Hz (mv)	|B| (γ)	ϕ (°)	>13.9 Mev	>40 Mev
22	1326-2126	1400	-103.8	359.	---	---	-7.33	.148	13.3	327.	6.64	1.26
		1500		360.	---	.206		.148	---	---	6.89	1.25
		1600		379.	---	.132		.156	17.1	288.	6.66	1.29
		1700		379.	---	---		.148	21.	039.	6.84	1.43
		1800		367.	---	.133		.155	22.6	289.	6.68	1.46
		1900		373.	---	.096		.133	16.7	299.	6.82	1.27
		2000		365.	---	.112		.182	16.6	326.	6.74	1.19
		2100		372.	---	.087		.163	17.0	285.	6.85	1.2
23	1327-2114	1400	-104.	402.	---	.223	-7.4	.163	13.4	318.	6.92	1.34
		1500		422.	---	---		.14	12.9	293.	6.65	1.44
		1600		421.	---	---		.133	13.9	311.	6.78	1.38
		1700		419.	---	---		.125	13.8	321.	6.64	1.16
		1800		414.	---	---		.148	12.3	313.	6.84	1.19
		1900		428.	---	.185		.144	13.5	324.	6.74	1.26
		2000		434.	---	---		.155	10.1	294.	6.61	1.11
		2100		431.	---	.27		.156	10.6	325.	6.76	1.32
24	1339-2136	1400	-104.1	410.	---	.073	-7.42	.113	10.9	292.	6.85	1.22
		1500		402.	---	.133		.132	9.9	304.	6.73	
		1600		404.	---	---		.14	8.7	306.	6.74	1.19
		1700		---	---	---		---	8.5	053.	---	---
		1800		400.	---	.155		.172	9.4	332.	6.76	1.13
		1900		406.	---	.084		.121	11.	304.	6.82	1.19
		2000		399.	---	---		.125	10.7	335.	6.71	1.19
		2100		416.	---	.095		.121	11.4	288.	6.66	1.43

[1] Wolfe - NASA/ARC
[2] Scarf - TRW, Inc.
[3] Sonett and Colburn - NASA/ARC
[4] Webber - Univ. of N. H.

ESP = Earth-Sun Probe Angle.

Data sampled hourly unless otherwise noted.

* 1700-2000 data not usable.

** Peak velocity-Wolfe's least squares analysis not done. The extremely low N_{H+} during this coverage caused the Least Squares program to fail.

INFERRED IP MAGNETIC FIELD

BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1893	1971 DEC 20	T	A	A	A	A	A	A	A	T	T	T	T	–	T	T	T	T	T	T	T	T	T	T	–	T	T	T
1894	1972 JAN 16	T	A	A	A	A	T	T*	T	T	T	T	T	T	T	T	T	T	A	A	A	T	T	T	T	T	TA	A
1895	FEB 12	A	T	A	A	A	A	T	T	T	TA	A	–	A	T	T	T	T	TA	A	T	T	T	T	T	TA	A	A
1896	MAR 10	A	A	A	A	A	A	A	A	A	A	A	T	A	T	T	T	T	A	A	T	T	T	T	T	T	A	A
1897	APR 6	A	T	T	A	T	T	T	T	T	T	T	T	T	A	T	T	A	A	A	A	A	–	A	A	T	TA	A
1898	MAY 3	A	A	A	–	A	T	T	T	T	T	T	T	T	A	A	T	A	A	A	A	A	T	A	T	T	A	T
1899	MAY 30	A	A	*	A	A*	T	T	A	T	T	T	A	–	–	–	–	–	T	–	A	A	T	T	T	T	TA	A
1900	JUN 28	A	A	A	A	A	A	A	AT	T	T	T	TA	A	T	T	A	A	A*	A*	A	T*	T	T	T	T	T	TA
1901	JUL 23	A*	A*	A*	A	A	A	A	A*	T	T	A	A	A	–	A	T	T	T	T	T	A	T	T	T	T	A	–
1902	AUG 19	–	–	A	A	A	A	A	T	A	A	A	A	T	A	A	A	T	T	T	T	A	A	T	A	A	A	–
1903	SEP 15	A	T*	A	A	A	A	A	T	A	A	A	–	–	–	–	–	T	T	T	T	T	–	T	A	A	A	T
1904	OCT 12	T	–	–	A*	T	T	T	A	A	T	A	A	A	A	A	AT	T	AT	T*	T	–	A*	AT	T	T	*	A
1905	NOV 8	A	A	A	AT	AT	AT	T	T*	A	A	A*	AT	A	A	AT	T	T	TA	T	T	T	A	A	A	A	AT	T
1906	DEC 5	T	T	AT	–	–	T	T	AT	–	T	T	A	–	–	T	TA	A	T	T	T	A*	T	T	T	T	AT	T
1907	1973 JAN 1	T	T	T	T	T	T	T	–	AT	T	–	–	TA	A	A	A	A	A	T	–	–	T	–	T	–	T	T
1908	JAN 28	T	A	T	T	T	T	T	T	A	TA	A	A	AT	TA	AT	TA	AT	–	A	A	T	T	T	T	T	T	T
1909	FEB 24	T	T	TA	T	T	–	TA	A	A	T	A	A	A	AT	A	A	A	TA	A	A	TA	A	A	T	T	T	T
1910	MAR 23	T	T	T	A	T	T	T	TA	A	TA	A	A	–	A	A	TA	A	A	AT	T–	–	T	T	T	T	T*	T*
1911	APR 19	T	AT	T-	T	T	T	A	T	T	TA	A	A	A*	A	AT	TA	A*	T	A	TA	T*	AT	A	T	A	T	A*
1912	MAY 18	T	T	T	T	T	T	TA	T	A	AT	T	A	A	A	A	A	A*	A	A	A	A	T*	–A	A	–	T	T
1913	JUN 12	T*	T	–	T	T*	A	T	T*	T*	T	T	AT	A	A	T	–	T	A	A	A	A*	AT	–	T	A	A	T
1914	JUL 9	T	T	A	T	T	A	T*	T*	A	AT	–	A	T	TA	T	T	T	A	A*	A	A*	TA	A	TA	T*	T*	T
1915	AUG 5	T	A	A	AT	A	T	T*	T	*	AT	T	AT	T	A	TA	T	T	A	A	AT	A*	AT	A	A	TA	A*	A
1916	SEP 1	TA*	T	T	AT	A	TA*	A	*	T	T	T	A	A	A	T	T	T	A	T	A	A*	A	T*	A	A	A*	A
1917	SEP 28	A*	A	AT	T	T	A*	A	A	A	A	T*	A	AT	A*	AT	T*	AT	AT	T	T	T*	T	T	T*	T	T*	T	T*	T	T*	T	T*	T
1918	OCT 25	T*	T	T*	T	A	TA	A*	A	A*	T	A	T*	T	A	T	A	A*	A	A*	A	T	A	TA	T	T*	T	A	A	A	A	AT	A	AT	TA	A*	T	A*	–	A	A
1919	NOV 21	A	*	T*	T	T	–	A	A	A*	A	AT	T	A	T	A*	T*	A	TA	A*	A	A*	A	A*	A	T	TA	T	T	T	T	T*	T	*	T*	T	T	TA	TA	A*	A	T*	T	–	T*	A	A*	TA	A*	A	T	T
1920	DEC 18	T	T	AT	A	A	T	A*	T	A	TA	A*	T	A*	*	A	A	A	*	AT	T	T*	T	T	T	T	T	*	T	T	T	T	T	T	A	T	AT	T	A	T	T*	A	A*	T	AT	T
1921	1974 JAN 14	T	A	A*	T	–	T	T	A	A	T	A	A	A	A*	A	–	A	A	–	AT	–	T*	T	T*	TA	T	*	T	A	T*	T	T	T	T	A	T	–	T	T	A	–	–	–	T	T	–	T	–	T	–	A
1922	FEB 10	A	–	A	–	–	*	A	A	A	A	A	A	A	A	TA	T	–	A	–	A	–	*	T	T	T	T	T	T	–	A	–	–	T	T	T	T	T	T	T	T	TA	T	T	T	T	T	T	T	A	A	A	A
1923	MAR 9	A	A	A	A	A	A	A	A	A	A	A	A	A	T	T	TA	TA	A	A	T	A	A	A	A	A	T	A	T	TA	T	A	T	T	A	A	T	T	T	T	T	T	T	T	TA	T	T	TA	T	TA	A	TA	–	A	TA
1924	APR 5	A	A	A	A	A	–	TA	A	A	A	A	A	A	A	*	A	A	A	A	A	A	A	T	T	TA	TA	TA	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	A	TA	A	AT	T	A	A	A	–	–	–
1925	MAY 2	–	–	A	A	A	A*	AT	T	A	AT	AT	T	A	T	*	TA	A	A	A	TA	T	*	A	A*	AT	AT	T	T	T	T	T	T	T	T	TA	T	T	T	T	T	T	T	T	T	T	T	T	TA	T	T	T	A	–	–	–
1926	MAY 29	T	T	A	A	A	*																					

T = towards the sun
A = away from the sun
* = effect doubtful or not discernable
– = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field made from magnetograms produced by magnetometers at the Vostok Antarctic Station of the USSR for the first half of the day and the Thule Geopole Station of the U.S. Air Weather Service for the second half.

APRIL 1974 DATA

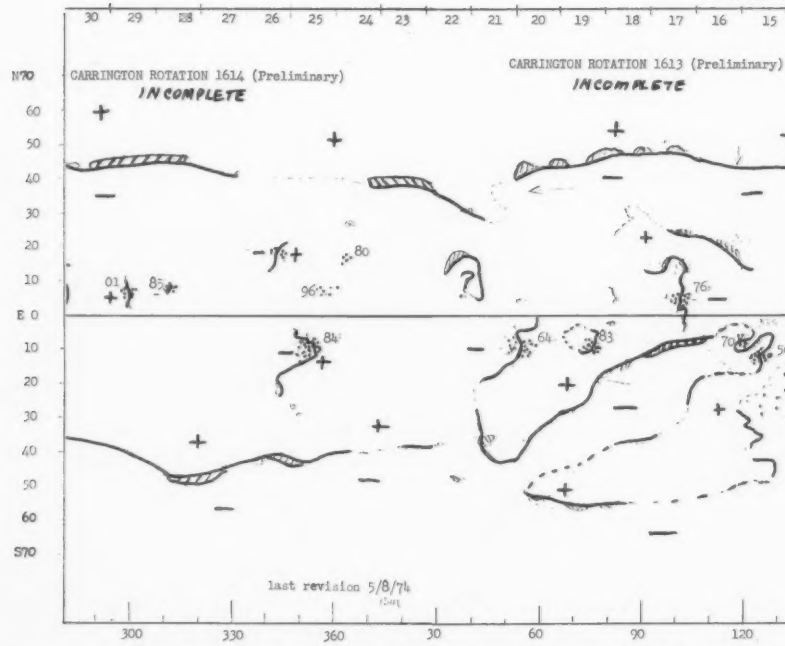
Contents

	Page
Daily Solar Activity Centers	
Hα Synoptic Chart	29
X-ray, Magnetograms, Calcium Plages, Hα Spectroheliograms, Sunspots and Corona	30-89
Individual Regions of Solar Activity	90-96
Daily Calcium Indices	97
Solar X-ray Radiation	
Naval Research Laboratory - Explorer 37 (publication delayed)	
Sudden Ionospheric Disturbances	
Table of Events	98-101
Number of Events in each Plage Region	101
Solar Radio Waves	
Spectral Observations	102-109
Selected Events by Radioheliograph (not available at time of publication)	
Cosmic Rays	
Neutron Monitors Daily Values - Thule, Alert, Deep River, Calgary, Sulphur Mountain, Kiel, Tokyo	110
Chart of Variations - Thule, Alert, Deep River, Calgary, Sulphur Mountain, Kiel, Tokyo	111
Geomagnetic Indices	
Table of Indices Kp, Ci, Cp, Ap, aa	112
Chart of Kp by Solar Rotations and 12-Month Table of Daily Averages Ap	113
Equatorial Indices Dst	114
Principal Magnetic Storms	115
Sudden Commencements and Solar Flare Effects	116
Radio Propagation Indices	
North Atlantic Quality Figures and Forecasts	117
Transmission Frequency Ranges - North Atlantic Path	118-119
Quality Indices on Germany-Canada Path	120

For explanations of the data contained here in see *Descriptive Text* published as supplement to February 1974 *Solar-Geophysical Data* (Number 354).

Hα SYNOPTIC

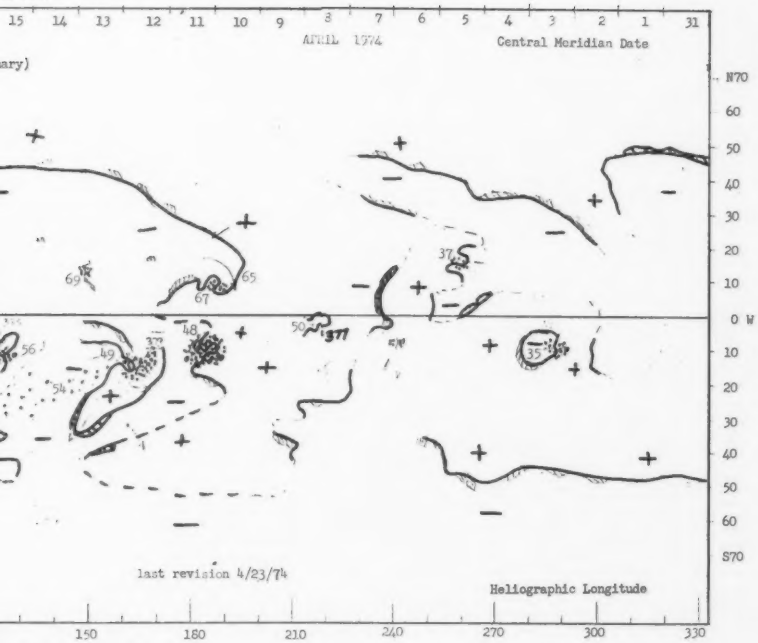
APRIL 19



Errata: The longitudes on the synoptic charts have been labeled "Carrington longitude". These longit
the heliographic system. This change should also be noted on page 20 of the *Descriptive Text*
including the reference to Lo, as shown on the pages of solar maps which follow.

TIC CHART

HL 1974



ongitudes are, in fact, in
Text published February 1974

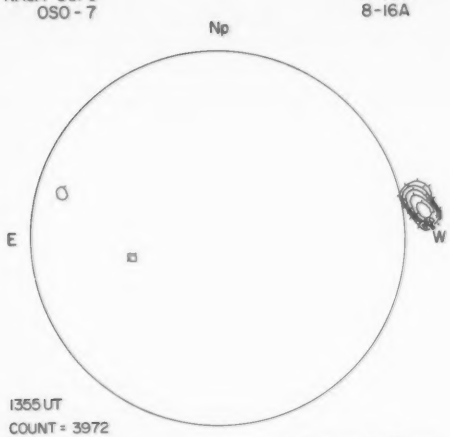
29
Apr 74

APRIL 1, 1974 (P=

NASA GSFC
OSO-7

X-RAY
8-16A

McMATH-HU



1355 UT
COUNT = 3972
ROLL = 52.8°
P-TH = -3.20

Counts per 0.125 sec.

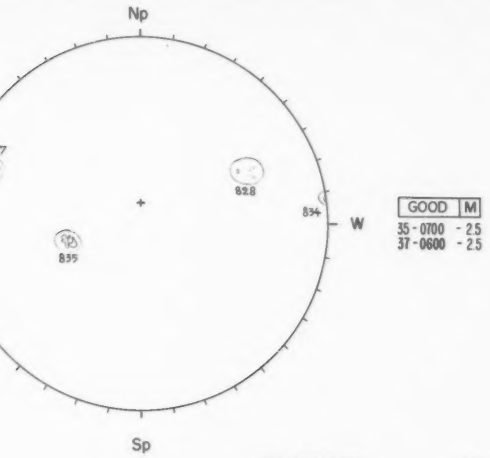
1450 UT

Note: The Prospect Hill Observatory has ceased operation on 8.6 mm. A replacement map at this frequency is expected.

P=-26.20, B_o=-6.54, L_o=318.21)

30 Apr 74

H-HULBERT CALCIUM REPORT



GOOD	M
35 - 0700	- 2.5
37 - 0600	- 2.5

MT. WILSON Np MAGNETOGRAM

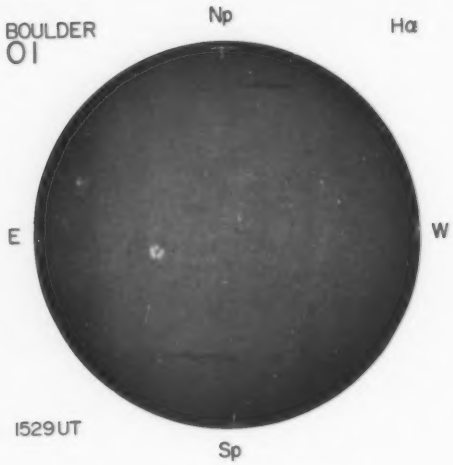
Solid - Plus
Dotted - Minus

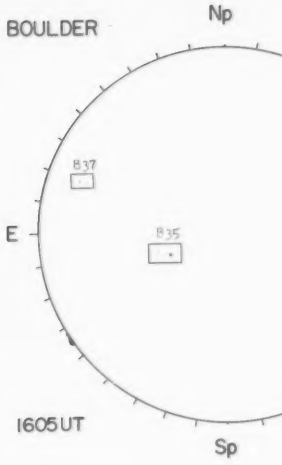
DELTAY =
DELTAX =

E NO DATA W

Levels
± 5
± 10
± 20
± 40
± 80

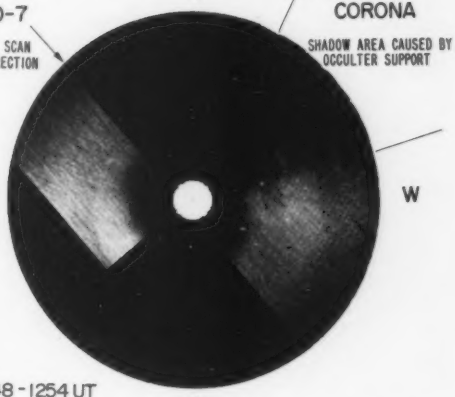
Sp


BOULDER
01
Np
Hα
E
W
1529UT
Sp


BOULDER
Np
B37
E
B35
1605UT
Sp

SUNSPOTS

CORONA
PIC DU MIDI



1248 - 1254 UT

31
Apr 74

APRIL 2, 1974 (P=-

NASA GSFC
OSO - 7

X-RAY
8-16A

McMATH-HUL

Np

E

NO DATA

W

E

837

839

845

1410 UT

COUNT =
ROLL =
P-TH =

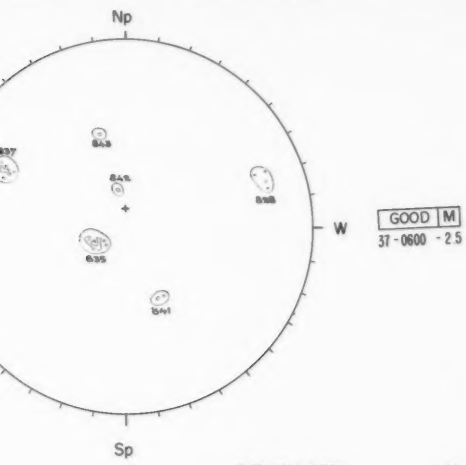
Sp

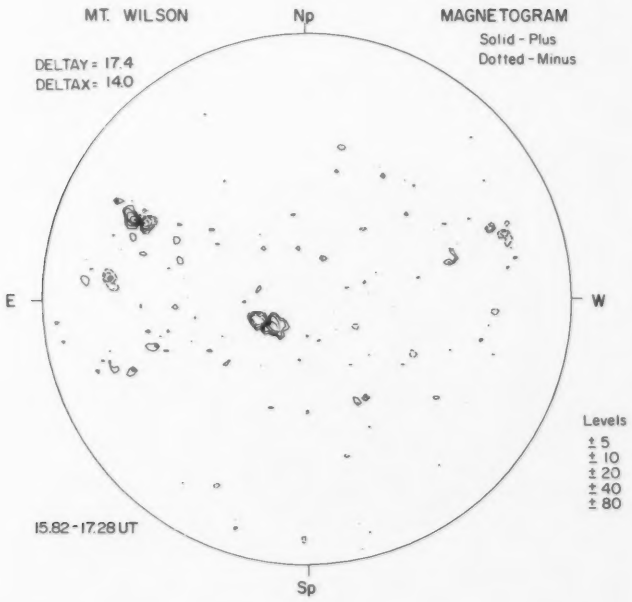
Counts per 0.125 sec.

=-26.24, B_o=-6.49, L_o=305.02)

32
Apr 74

HULBERT CALCIUM REPORT





BOULDER
02

Np

E

W

Sp

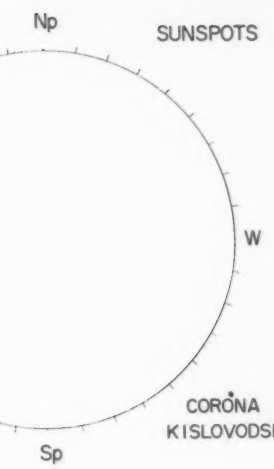
1525UT

Hα

BOULDER

E

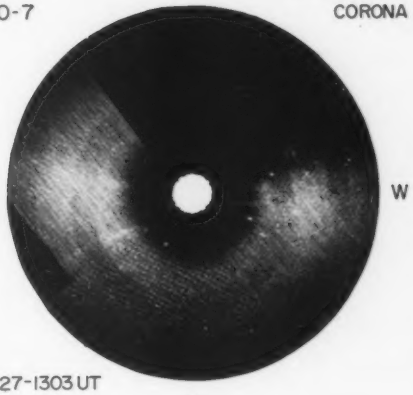
NO DATA



SUNSPOTS

CORONA
KISLOVODSK

NRL
OSO-7



WHITE-LIGHT
CORONA

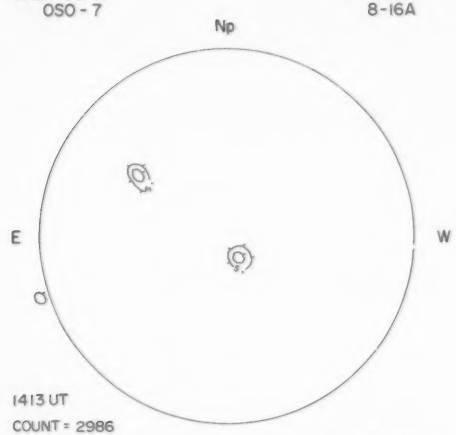
1227-1303 UT

33
Apr 74

APRIL 3, 1974 (P=-

NASA GSFC
OSO - 7

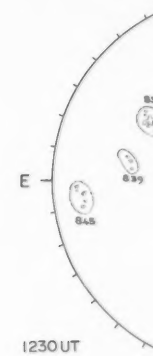
X-RAY
8-16A



1413 UT
COUNT = 2986
ROLL = 53.9°
P-TH = -3.42

Counts per 0.125 sec.

McMATH-HULB

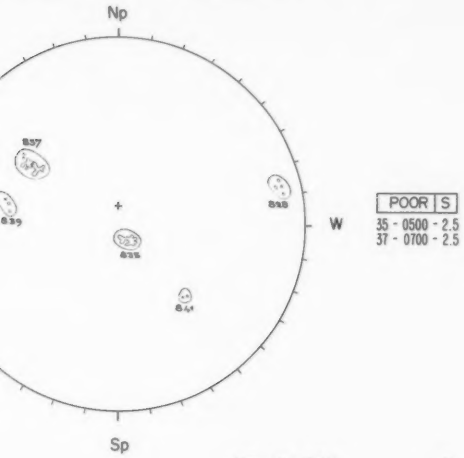


1230 UT

=-26.27, B_o=-6.43, L_o=291.82)

34
Apr 74

HULBERT CALCIUM REPORT



POOR	S
35 - 0500 - 2.5	
37 - 0700 - 2.5	

MT. WILSON Np MAGNETOGRAM

Solid - Plus
Dotted - Minus

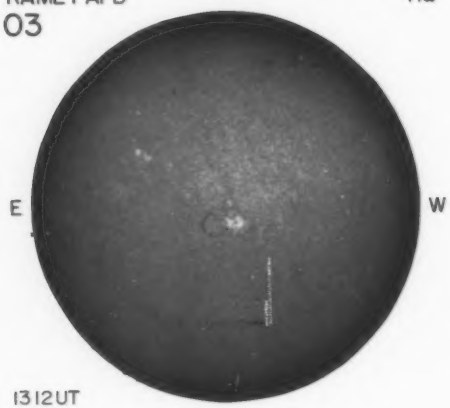
DELTAY=
DELTAX=

E **NO DATA** W

Levels
± 5
± 10
± 20
± 40
± 80

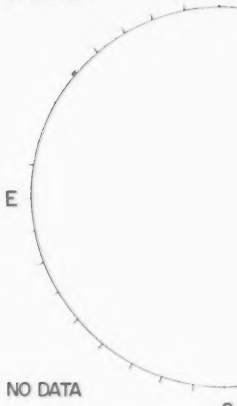
Sp

RAMEY AFB
03

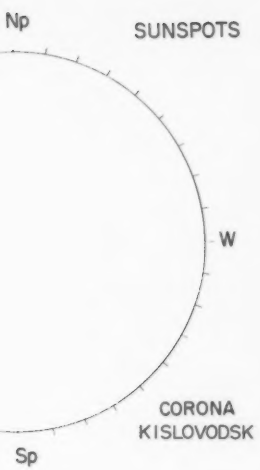


1312 UT

BOULDER



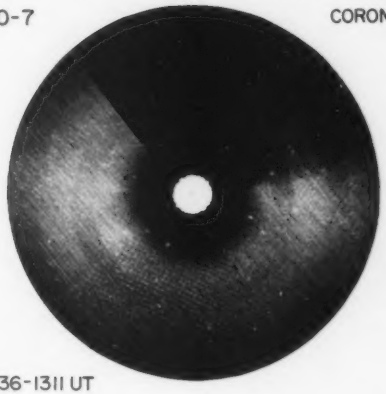
NO DATA



SUNSPOTS

CORONA
KISLOVODSK

NRL
OSO-7



WHITE - LIGHT
CORONA

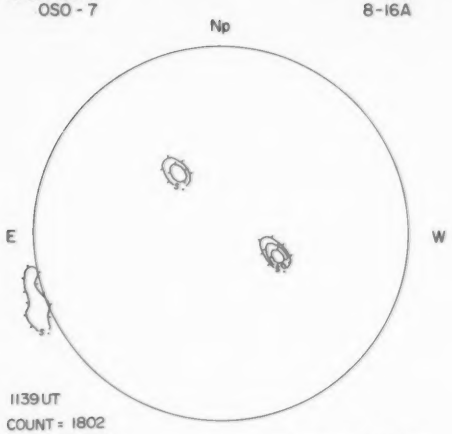
1236-1311 UT

35
Apr 74

APRIL 4, 1974 (P=-2

NASA GSFC
OSO - 7

X-RAY
8-16A



1139 UT
COUNT = 1802
ROLL = 54.3°
P-TH = -3.52

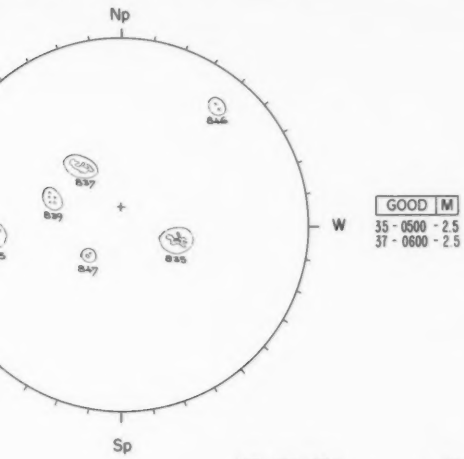
Counts per 0.125 sec.

McMATH-HUL

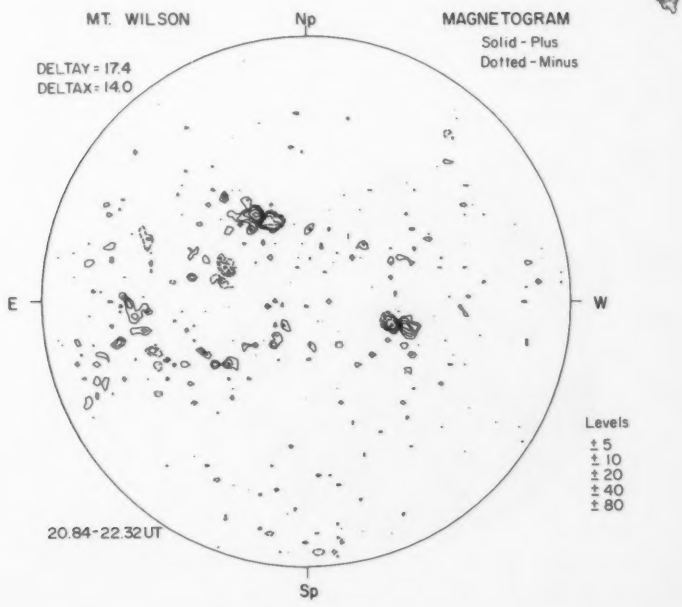
1400 UT

$= -26.30,\ B_o = -6.37,\ L_o = 278.63)$

HULBERT CALCIUM REPORT



GOOD	M
35 - 0500	- 2.5
37 - 0600	- 2.5



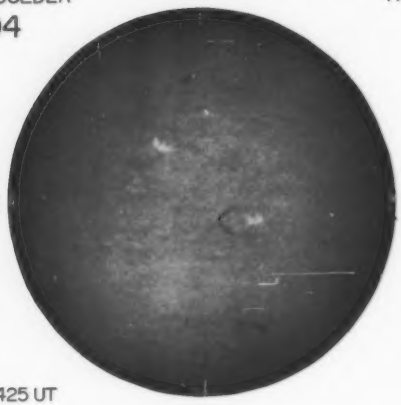
BOULDER
04

Np

Hα

E

W



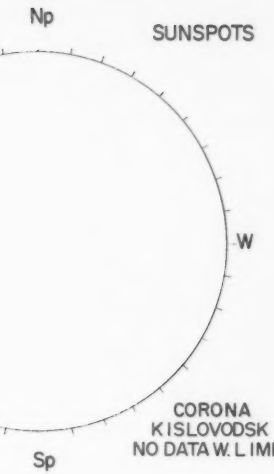
1425 UT

Sp

BOULDER

E

NO DATA



SUNSPOTS

CORONA
KISLOVODSK
NO DATA W. L IMB

NRL
OSO-7

WHITE-LIGHT
CORON

1451 - 1457 UT

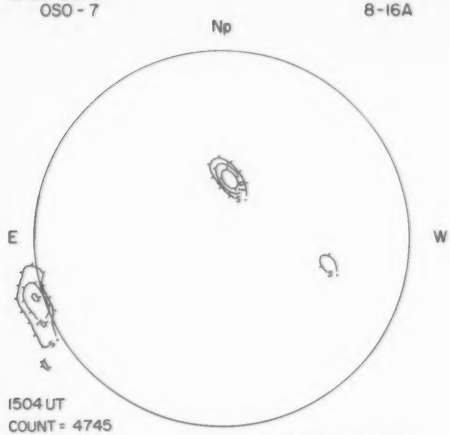
37
Apr 74

APRIL 5, 1974 (P=-

NASA GSFC
OSO-7

X-RAY
8-16A

McMATH-HUL



1504 UT
COUNT = 4745
ROLL = 55.4°
P-TH = -3.64

Counts per 0.125 sec.

=-26.32, B_o=-6.31, L_o=265.43)

HULBERT CALCIUM REPORT

Np

NO DATA

W

Sp

MT. WILSON

Np

MAGNETOGRAM

Solid - Plus
Dotted - Minus

DELTAY= 17.4
DELTAX= 14.0

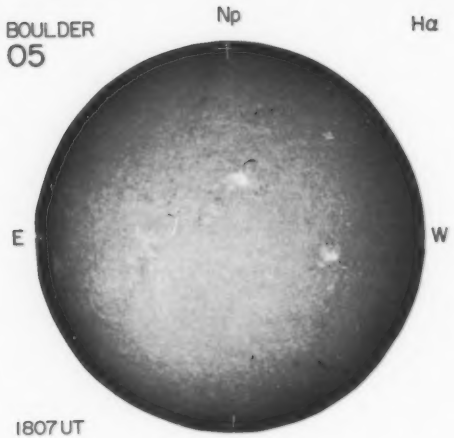
E

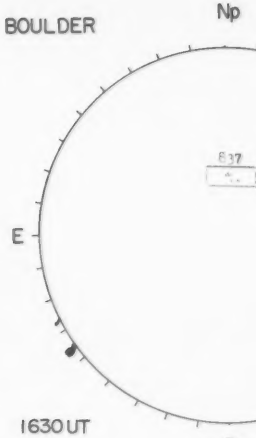
W

Levels
±5
±10
±20
±40
±80

18.46-19.96 UT

Sp


BOULDER
05
Np
Hα
E
W
1807 UT
Sp


BOULDER
Np
E
1630 UT
Sp

Np

SUNSPOTS

W

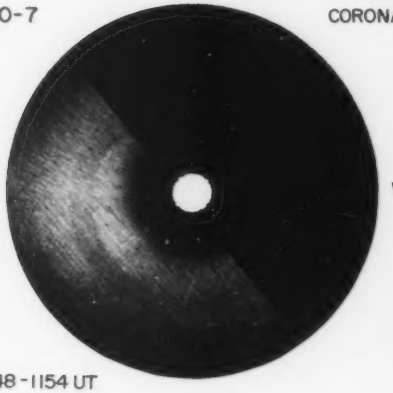
CORONA
NO DATA

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

W

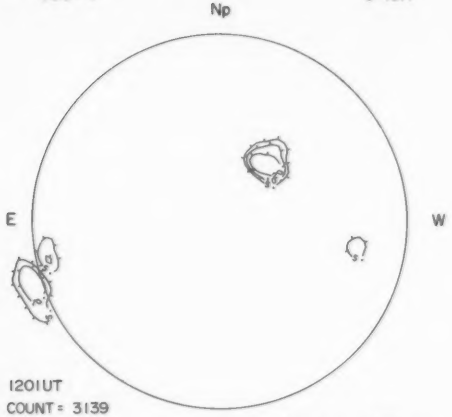
1148-1154 UT

Sp

APRIL 6, 1974 (P=

NASA GSFC
OSO - 7

X-RAY
8-16A



1201UT
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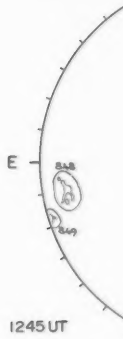
ROLL = 56.7°
P-TH = -3.74

Counts per 0.125 sec.

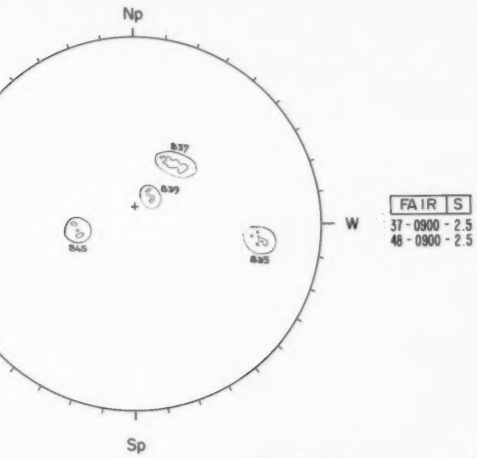
McMATH-HU



1245UT

P=-26.33, B_o=-6.25, L_o=252.24)

-HULBERT CALCIUM REPORT



FAIR	S
37 - 0900 - 2.5	
48 - 0900 - 2.5	

MT. WILSON Np MAGNETOGRAM

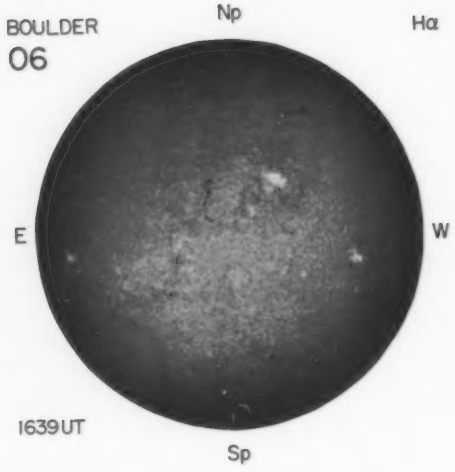
Solid - Plus
Dotted - Minus

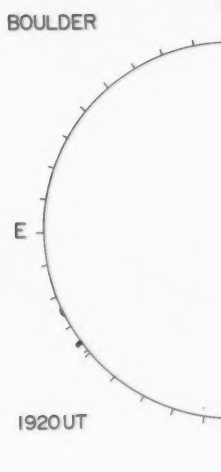
DELTAY=
DELTAX=

E **NO DATA** W

Levels
± 5
± 10
± 20
± 40
± 80

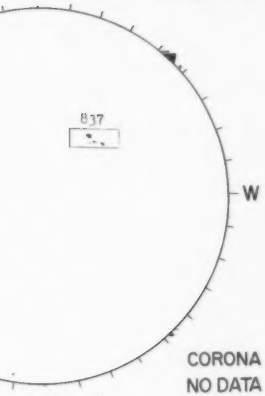
Sp


BOULDER
06
Np
Hα
E
W
1639UT
Sp


BOULDER
E
1920UT

Np

SUNSPOTS



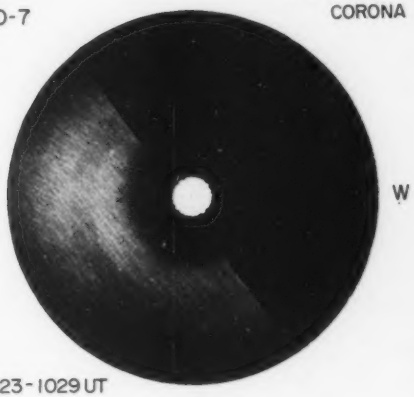
CORONA
NO DATA

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



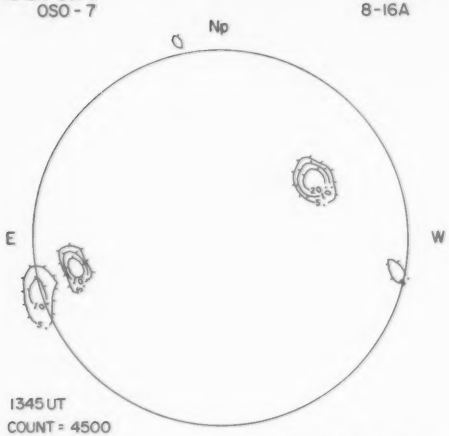
1023-1029 UT

Sp

APRIL 7, 1974 (P=-26.3

NASA GSFC
OSO-7

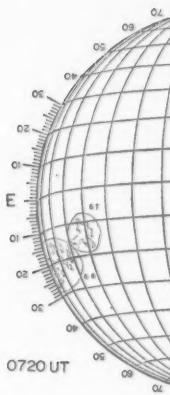
X-RAY
8-16A



1345 UT
COUNT = 4500
ROLL = 59.0°
P-TH = -3.85

Counts per 0.125 sec.

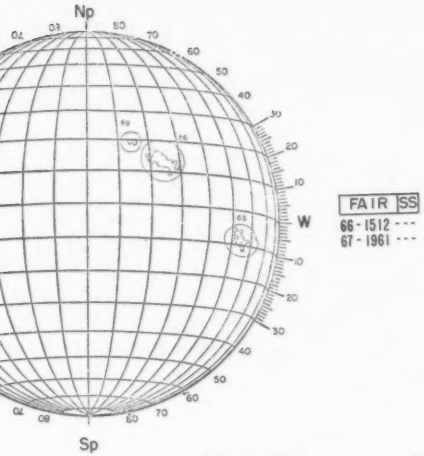
CATANIA



0720 UT

26.34, B_o = -6.18, L_o = 239.04)

CALCIUM REPORT



FAIR SS
66 - 1512 ---
67 - 1961 ---

MT. WILSON

Np

MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTAY =
DELTAX =

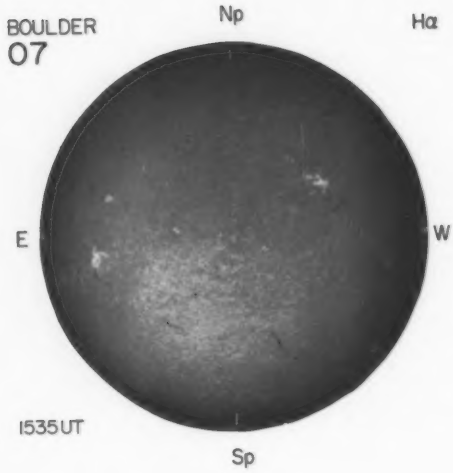
E

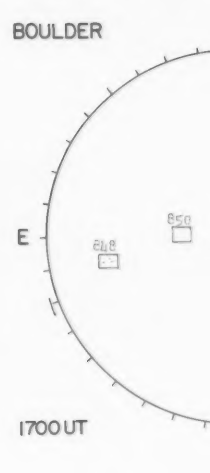
NO DATA

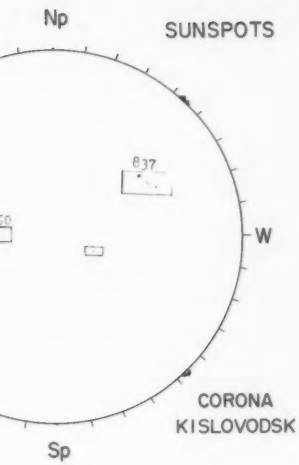
W

Levels
± 5
± 10
± 20
± 40
± 80

Sp


BOULDER
07
Np
Hα
E
W
1535 UT
Sp

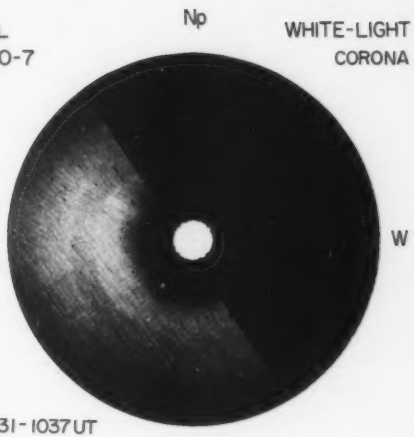

BOULDER
E
1700 UT



SUNSPOTS

CORONA
KISLOVODSK

NRL
OSO-7



WHITE-LIGHT
CORONA

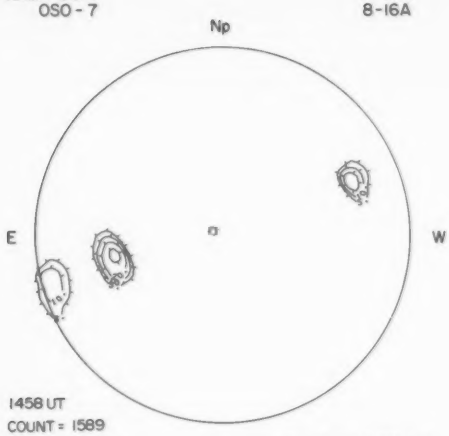
1031-1037 UT

43
Apr 74

APRIL 8, 1974 (P=-26

NASA GSFC
OSO-7

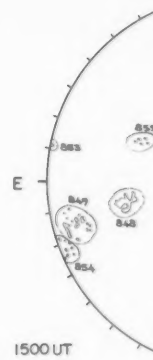
X-RAY
8-16A



1458 UT
COUNT = 1589
ROLL = 61.5°
P-TH = -3.96

Counts per 0.125 sec.

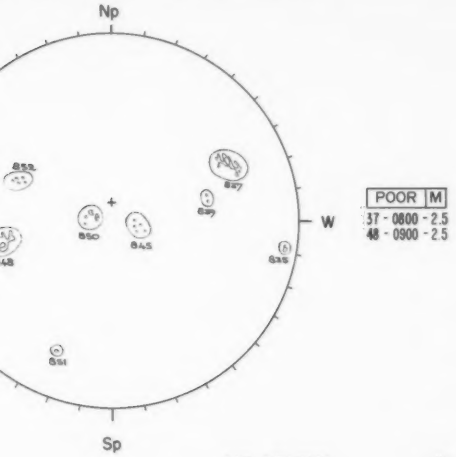
McMATH-HULB



1500 UT

-26.33, B_o=-6.12, L_o = 225.84)

ULBERT CALCIUM REPORT



POOR	M
37 - 0800 - 2.5	
48 - 0900 - 2.5	

MT. WILSON Np MAGNETOGRAM

Solid - Plus
Dotted - Minus

DELTAY =
DELTAX =

E **NO DATA** W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

BOULDER

08

Np

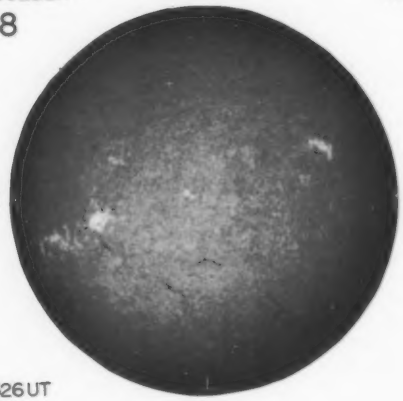
Hα

E

W

Sp

1526 UT

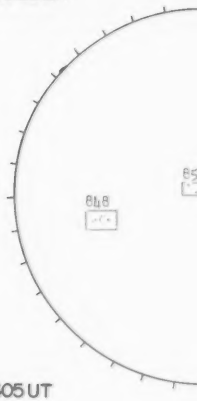


BOULDER

N

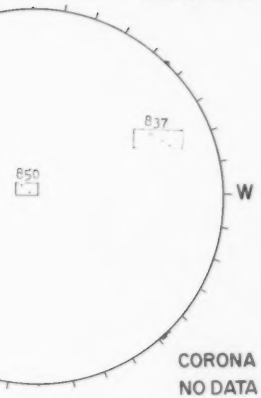
E

1605 UT



Np

SUNSPOTS



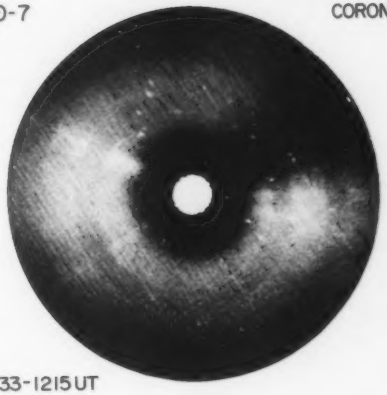
CORONA
NO DATA

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



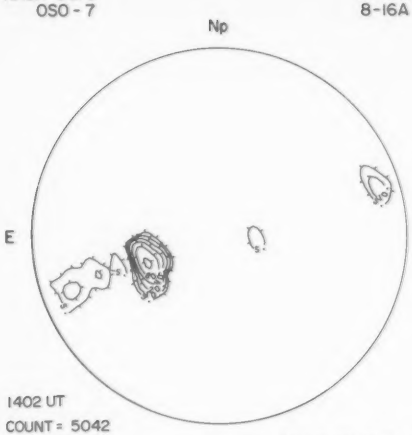
0733-1215 UT

Sp

APRIL 9, 1974 (P=-

NASA GSFC
OSO-7

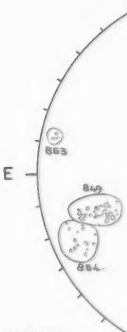
X-RAY
8-16A



1402 UT
COUNT = 5042
ROLL = 64.4°
P-TH = -4.06

Counts per 0.125 sec.

McMATH-HUL

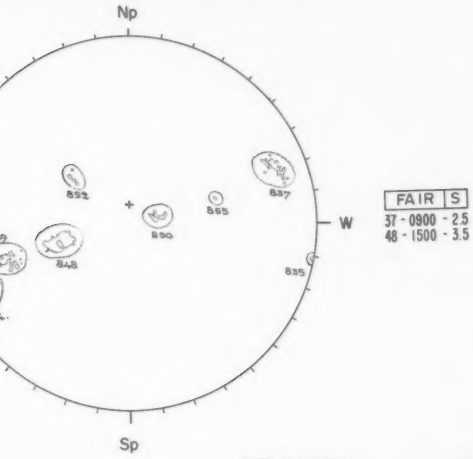


1420 UT

=-26.32, B_o=-6.05, L_o=212.64)

46
Apr 74

-HULBERT CALCIUM REPORT



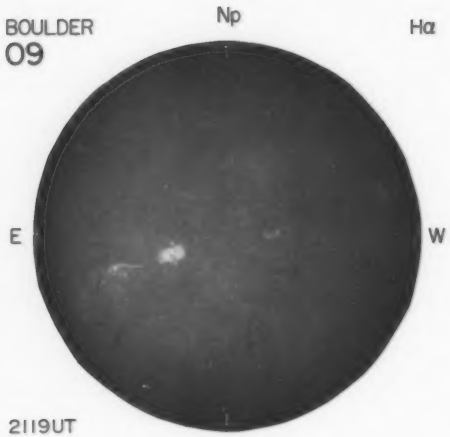
FAIR | S
37 - 0900 - 2.5
48 - 1500 - 3.5

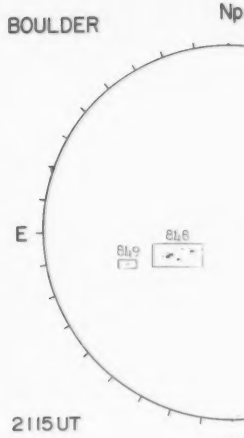
MT. WILSON Np MAGNETOGRAM

Solid - Plus
Dotted - Minus

DELTAY =
DELTAX =

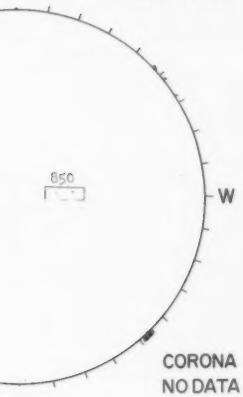
Levels
± 5
± 10
± 20
± 40
± 80


BOULDER
09
Np
Hα
E
W
2119UT
Sp


BOULDER
Np
E
2115UT
Sp

Np

SUNSPOTS



CORONA
NO DATA

Sp

NRL
OSO-7

Np

WHITE - LIGHT
CORONA

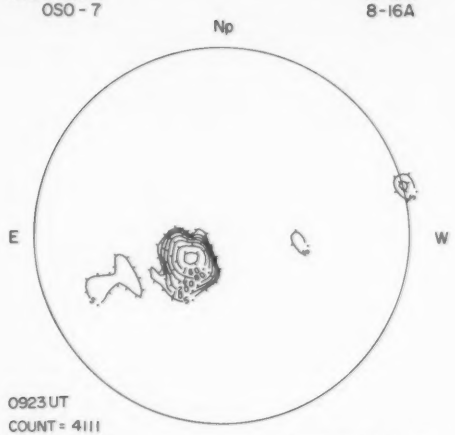
1047-1332 UT

Sp

47
Apr 74

NASA GSFC
OSO-7

X-RAY
8-16A



0923 UT
COUNT = 4111
ROLL = 66.2°
P-TH = -4.15

Counts per 0.125 sec.

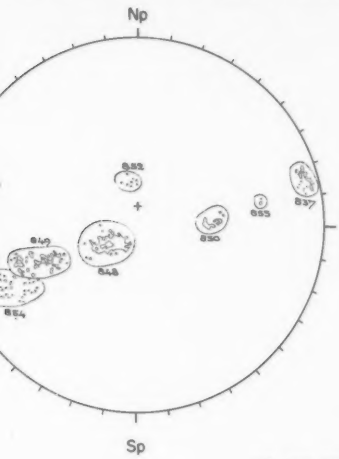
McMATH-HU

1330 UT

P=-26.31, B_o=-5.98, L_o=199.44)

48
Apr 74

H-HULBERT CALCIUM REPORT

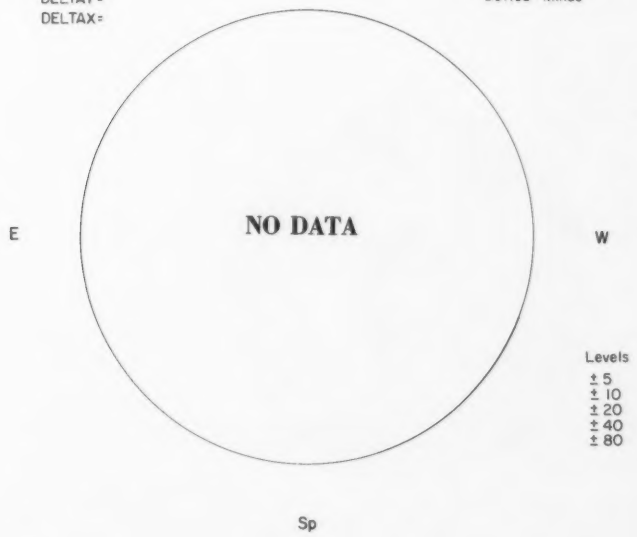


GOOD	M
37 - 0800	- 2.5
48 - 1900	- 3.5
49 - 1200	- 2.5
50 - 0500	- 2.5

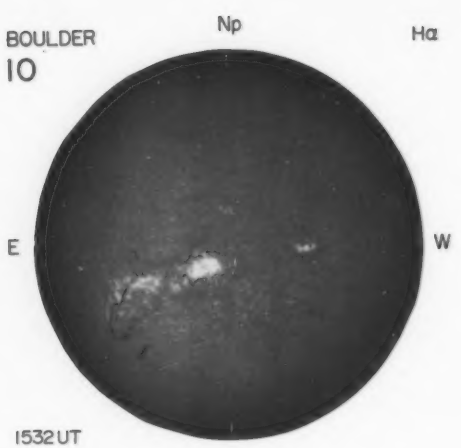
MT. WILSON Np MAGNETOGRAM

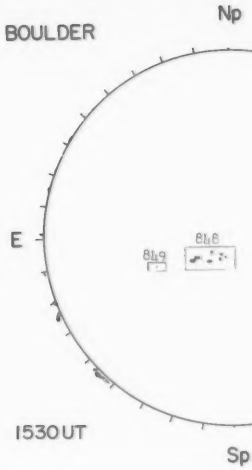
Solid - Plus
Dotted - Minus

DELTAY=
DELTAX=



Levels
± 5
± 10
± 20
± 40
± 80


BOULDER
10
Np
Hα
E
W
1532 UT
Sp


BOULDER
Np
E
8719
8719
1530 UT
Sp

Np

SUNSPOTS

W

CORONA
NORIKURA

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

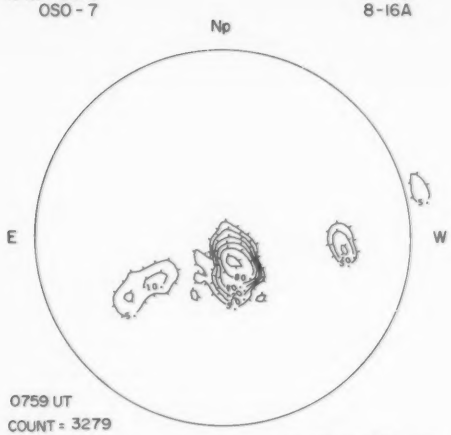
1056-1407UT

Sp

APRIL 11, 1974 (P=-26

NASA GSFC
OSO-7

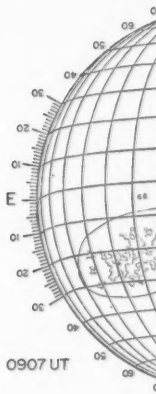
X-RAY
8-16A



0759 UT
COUNT = 3279
ROLL = 66.6°
P-TH = -4.24

Counts per 0.125 sec.

CATANIA

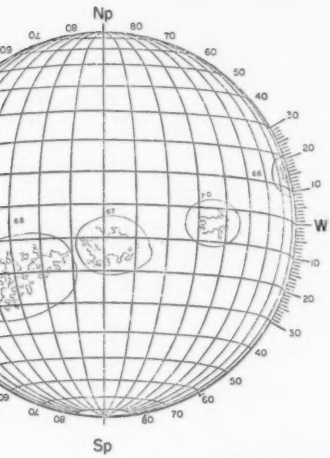


0907 UT

-26.28, B_o=-5.91, L_o=186.24)

50
Apr 74

CALCIUM REPORT



	FAIR	GD
66 - 3228	---	
70 - 1817	---	
67 - 4793	---	
68 - 6936	---	

MT. WILSON Np MAGNETOGRAM

Solid - Plus
Dotted - Minus

DELTAY =
DELTAX =

E

NO DATA

W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

RAMEY AFB

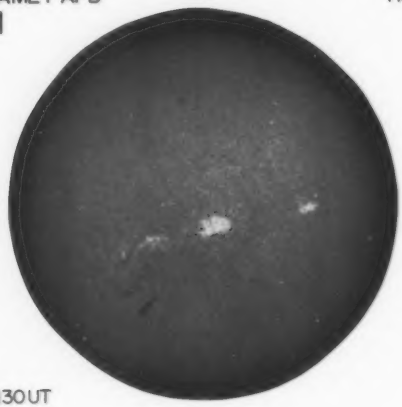
11

Np

Hα

E

W



1130 UT

Sp

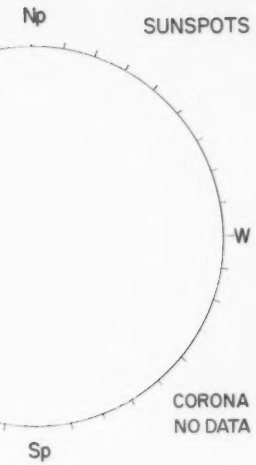
BOULDER

N

E

NO DATA

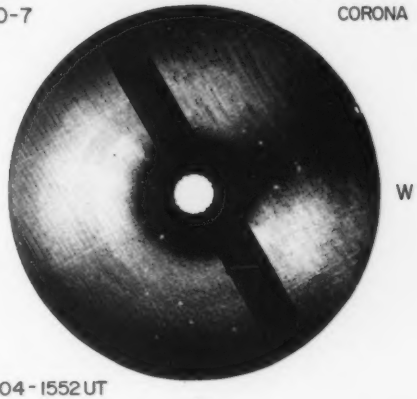
S



SUNSPOTS

CORONA
NO DATA

NRL
OSO-7



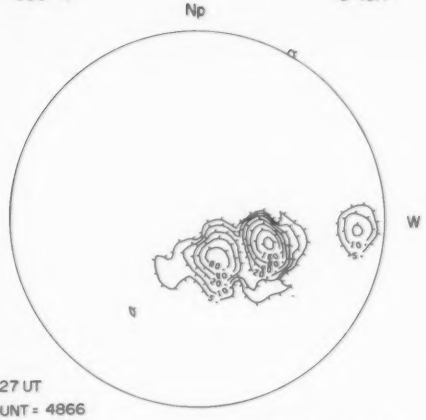
WHITE-LIGHT
CORONA

1104 - 1552 UT

APRIL 12, 1974 (P=-2

NASA GSFC
OSO-7

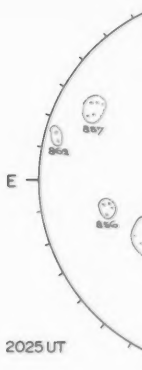
X-RAY
8-16A



1427 UT
COUNT = 4866
ROLL = 67.0°
P-TH = -4.37

Counts per 0.125 sec.

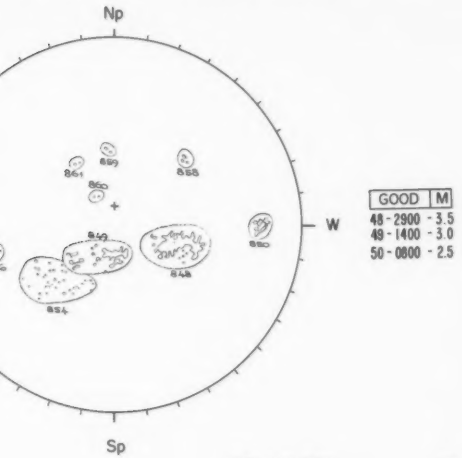
McMATH-HULB



2025 UT

= -26.25, B_o = -5.84, L_o = 173.04)

ULBERT CALCIUM REPORT



GOOD	M
48 - 2900	- 3.5
49 - 1400	- 3.0
50 - 0800	- 2.5

MT. WILSON Np MAGNETOGRAM

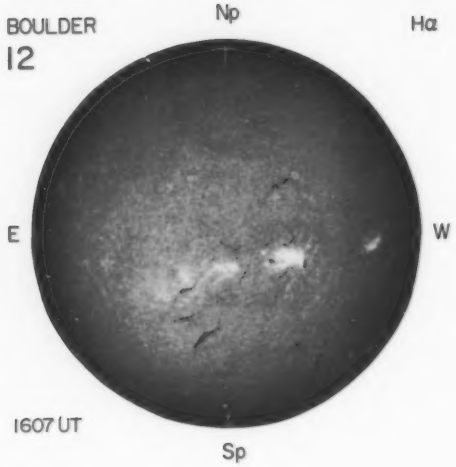
Solid - Plus
Dotted - Minus

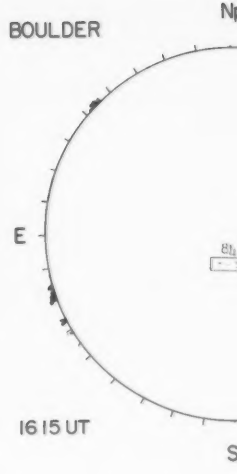
DELTAY =
DELTAX =

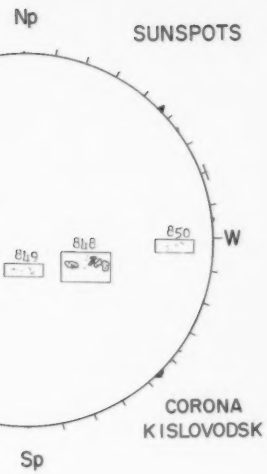
E NO DATA W

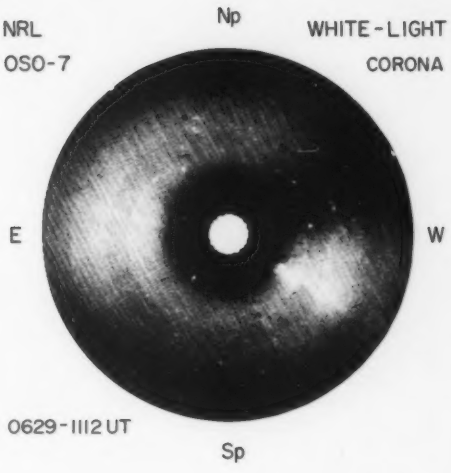
Levels
± 5
± 10
± 20
± 40
± 80

Sp


BOULDER
12
Np
Hα
E
W
1607 UT
Sp


BOULDER
Np
E
1615 UT


Np
SUNSPOTS
W
CORONA
KISLOVODSK
Sp

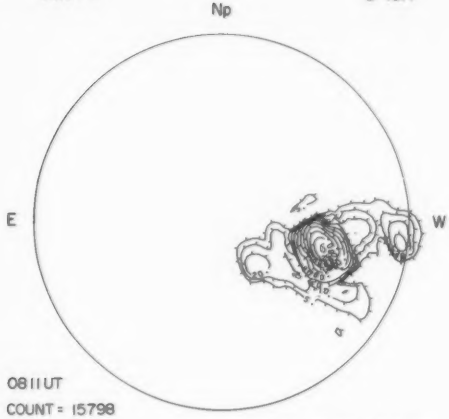

NRL
OSO-7
Np
WHITE-LIGHT
CORONA
E
W
0629-1112 UT
Sp

APRIL 13, 1974 (P=-2

NASA GSFC
OSO-7

X-RAY
8-16A

McMATH-HULB



0811 UT
COUNT = 15798
ROLL = 67.2°
P-TH = -4.44

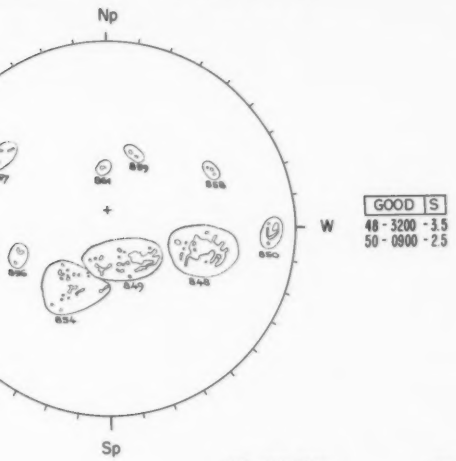
Counts per 0.125 sec.

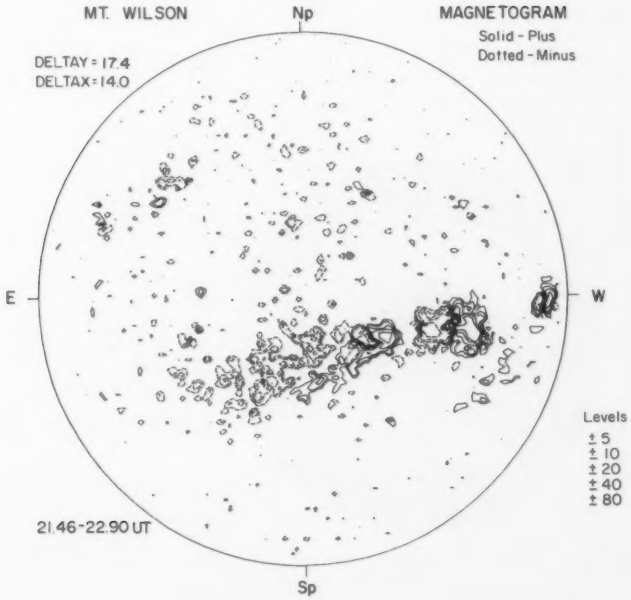
1300 UT

-26.21, B_o=-5.76, L_o=159.84)

54
Apr 74

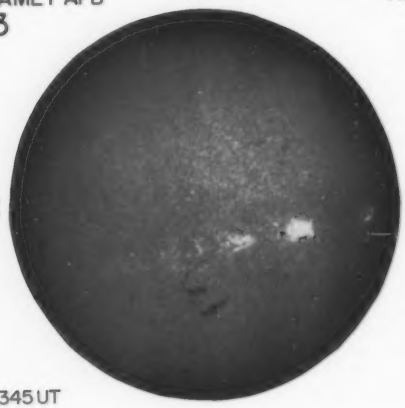
ULBERT CALCIUM REPORT





RAMEY AFB

13

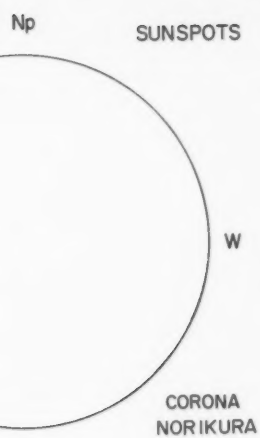


1345 UT

BOULDER

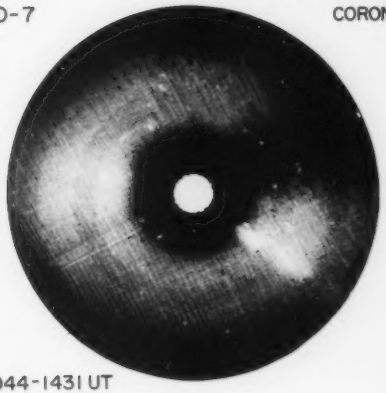
NO DATA

S



SUNSPOTS

CORONA
NORIKURA



NRL
OSO-7

WHITE-LIGHT
CORONA

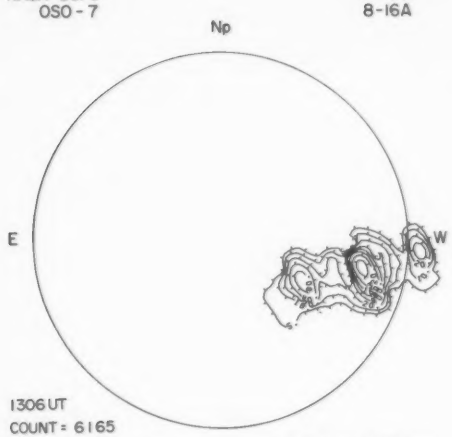
0944-1431 UT

55
Apr 74

APRIL 14, 1974 (P=-2

NASA GSFC
OSO-7

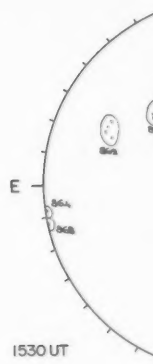
X-RAY
8-16A



1306 UT
COUNT = 6165
ROLL = 67.8°
P-TH = -4.56

Counts per 0.125 sec.

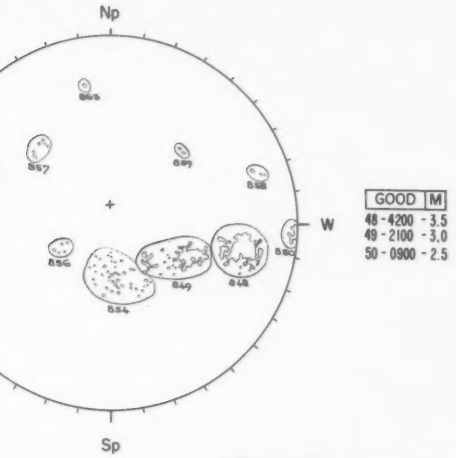
McMATH-HULBE



1530 UT

=-26.16, B_o=-5.69, L_o=146.64)

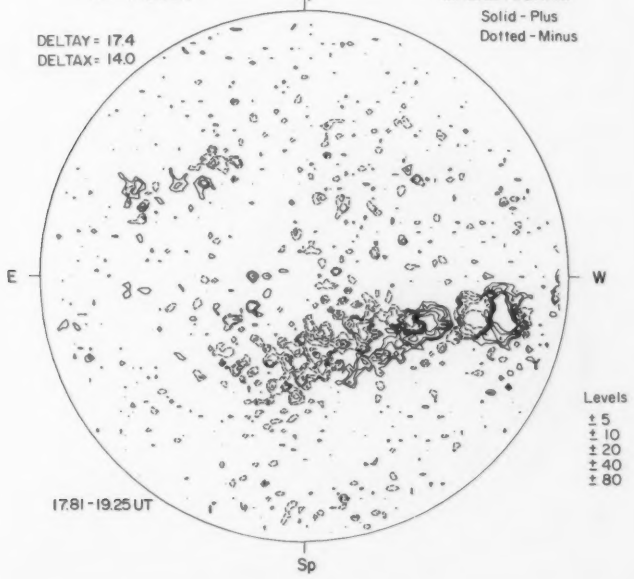
ULBERT CALCIUM REPORT



GOOD	M
48 - 4200	- 3.5
49 - 2100	- 3.0
50 - 0900	- 2.5

MT. WILSON

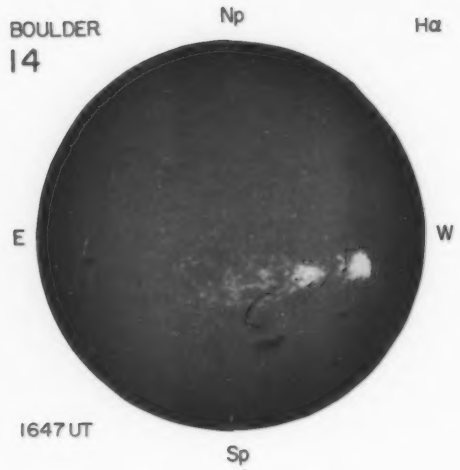
DELTAY= 17.4
DELTAX= 14.0

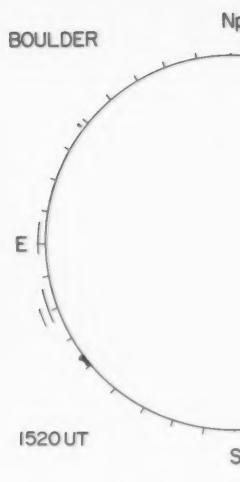


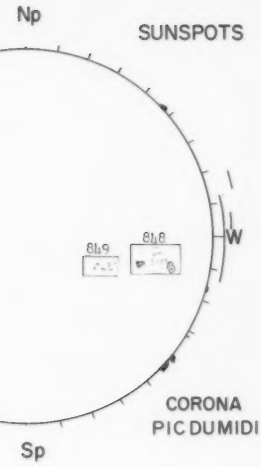
MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
± 5
± 10
± 20
± 40
± 80

17.81 - 19.25 UT


BOULDER
14
Np
Hα
E
W
1647 UT
Sp

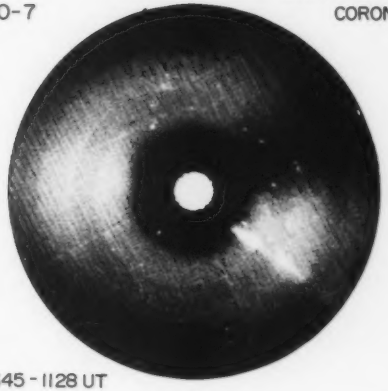

BOULDER
Np
E
1520 UT
S



SUNSPOTS

CORONA
PIC DUMIDI

NRL
OSO-7



WHITE-LIGHT
CORONA

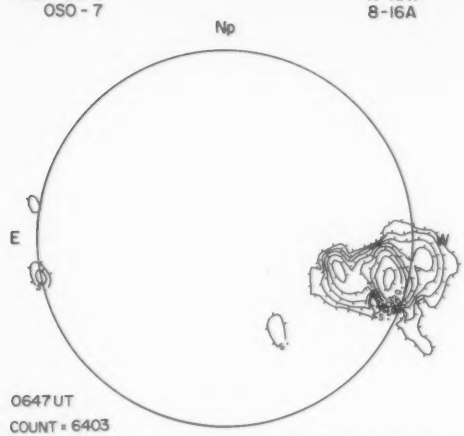
0645 - 1128 UT

57
Apr 74

APRIL 15, 1974 (P=-2

NASA GSFC
OSO-7

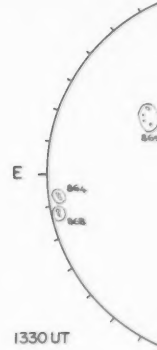
X-RAY
8-16A



0647 UT
COUNT = 6403
ROLL = 69.4°
P-TH = -4.63

Counts per 0.125 sec.

McMATH-HULBE

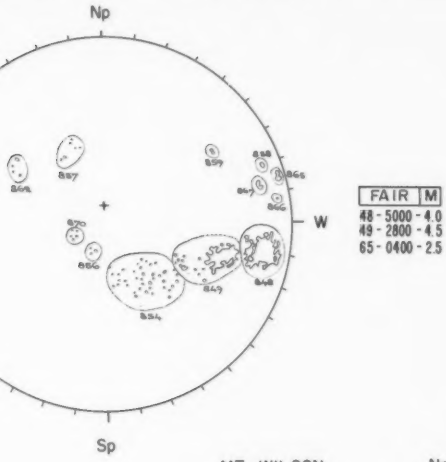


1330 UT

-26.11, B_o=-5.61, L_o=133.43)

58
Apr 74

LBERT CALCIUM REPORT



FAIR	M
48 - 5000 - 4.0	
49 - 2800 - 4.5	
65 - 0400 - 2.5	

MT. WILSON Np MAGNETOGRAM

Solid - Plus
Dotted - Minus

DELTAY=
DELTAX=

Levels
±5
±10
±20
±40
±80

BOULDER
15

Np

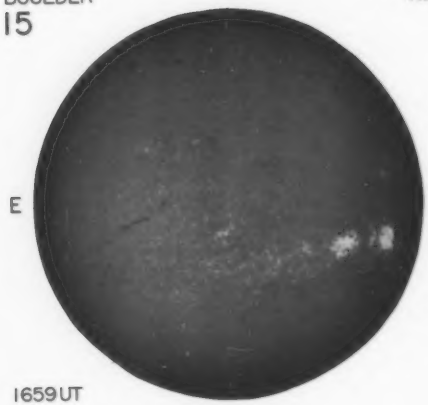
Hα

E

W

Sp

1659 UT

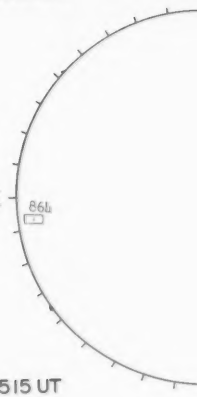


BOULDER

E

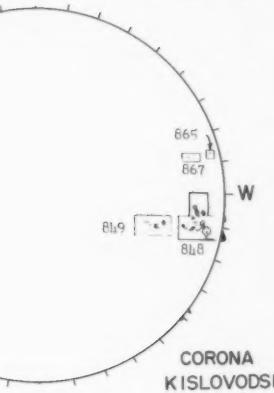
864

1515 UT



Np

SUNSPOTS



CORONA
KISLOVODSK

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

0823-1311 UT

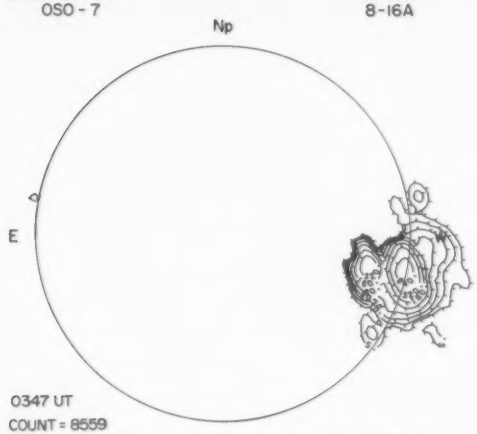
Sp

59
Apr 74

NASA GSFC
OSO - 7

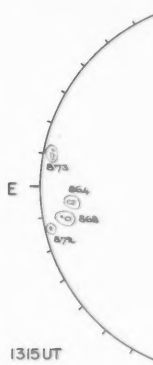
X-RAY
8-16A

McMATH-HULBE



0347 UT
COUNT = 8559
ROLL = 72.5°
P-TH = -4.71

Counts per 0.125 sec.

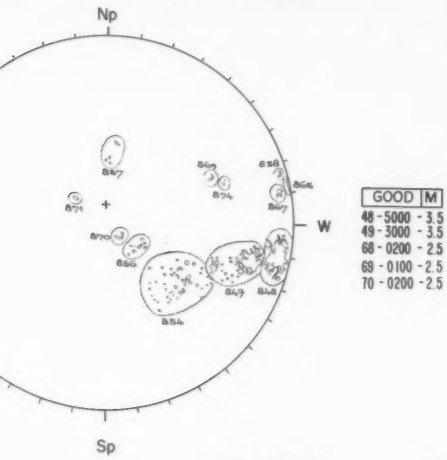


1315 UT

-26.05, B_o=-5.53, L_o = 120.23)

60
Apr 74

ULBERT CALCIUM REPORT



GOOD	M
48 - 5000	- 3.5
49 - 3000	- 3.5
68 - 0200	- 2.5
69 - 0100	- 2.5
70 - 0200	- 2.5

MT. WILSON Np MAGNETOGRAM

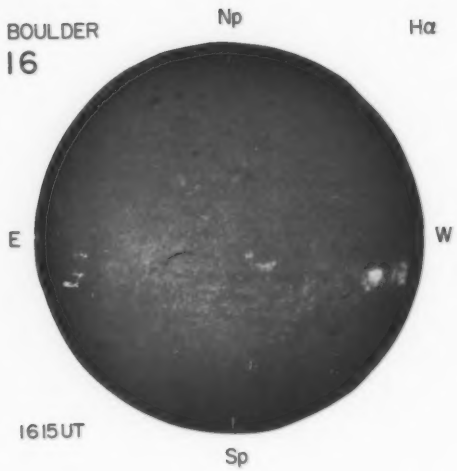
Solid - Plus
Dotted - Minus

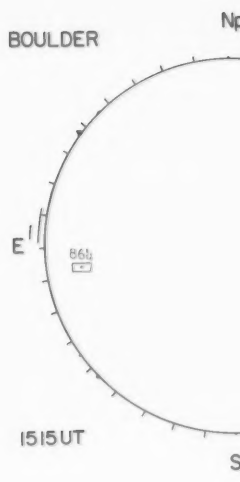
DELTAY =
DELTAX =

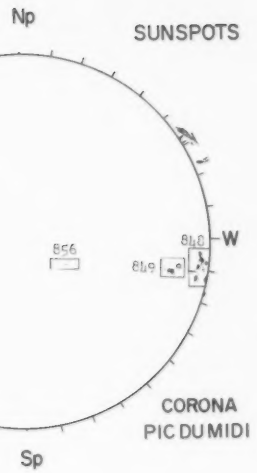
E **NO DATA** W

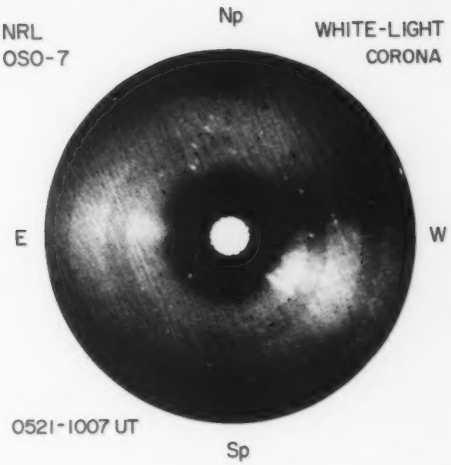
Levels
± 5
± 10
± 20
± 40
± 80

Sp


BOULDER
16
Np
Hα
E
W
1615UT
Sp


BOULDER
Np
E
1515UT
S


Np
SUNSPOTS
W
CORONA
PIC DU MIDI
Sp


NRL
OSO-7
Np
WHITE-LIGHT
CORONA
E
W
0521-1007 UT
Sp

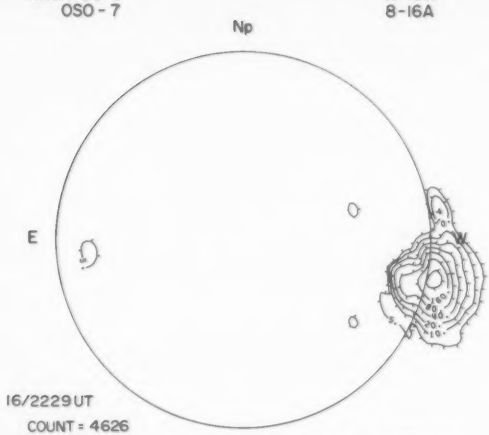
61
Apr 74

APRIL 17, 1974 (P=-2

NASA GSFC
OSO-7

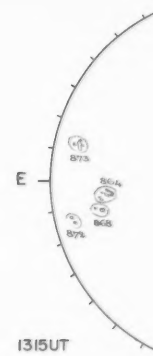
X-RAY
8-16A

McMATH-HULB



16/2229UT
COUNT = 4626
ROLL = 75.5°
P-TH = -4.79

Counts per 0.125 sec.

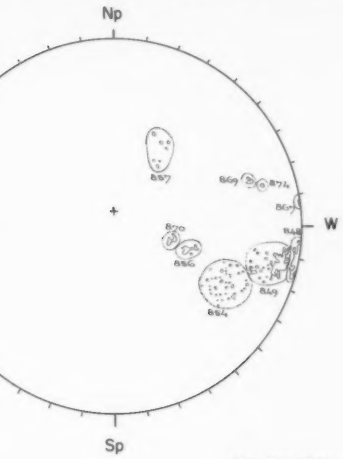


1315UT

=-25.98, B_o=-5.45, L_o=107.02)

62
Apr 74

ULBERT CALCIUM REPORT



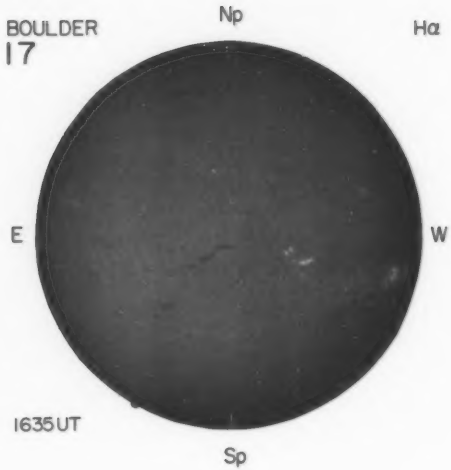
GOOD	M
48 - 4400	3.5
49 - 3000	3.5
56 - 0400	3.0
70 - 0200	3.0

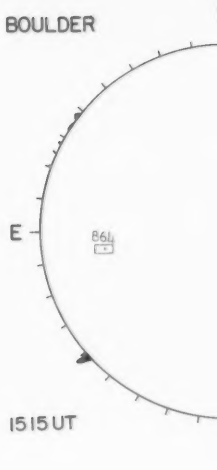
MT. WILSON Np MAGNETOGRAM

Solid - Plus
Dotted - Minus

DELTAY =
DELTAX =

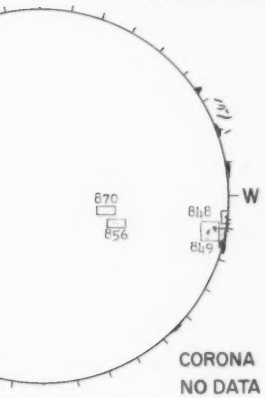
Levels
± 5
± 10
± 20
± 40
± 80


BOULDER
17
Np
Hα
E
W
1635UT
Sp


BOULDER
E
864
1515UT

Np

SUNSPOTS



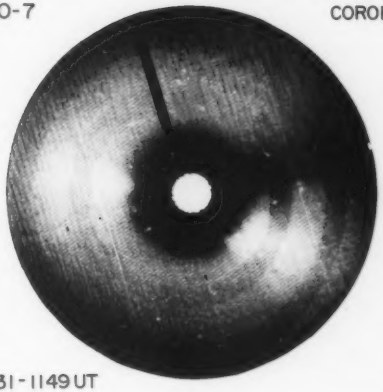
CORONA
NO DATA

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



0531-1149 UT

Sp

63
Apr 74

APRIL 18, 1974 (P=-2

NASA GSFC
OSO-7

X-RAY
8-16A

McMATH-HULL

0537 UT
COUNT = 5998
ROLL = 80.3°
P-TH = -4.90

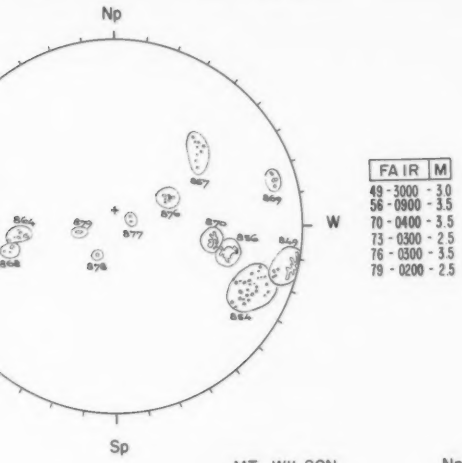
Counts per 0.125 sec.

1315 UT

-25.91, B_o=-5.37, L_o=93.82)

64
Apr 74

ULBERT CALCIUM REPORT



FA IR	M
49 - 3000	- 3.0
56 - 0900	- 3.5
70 - 0400	- 3.5
73 - 0300	- 2.5
76 - 0300	- 3.5
79 - 0200	- 2.5

MT. WILSON Np MAGNETOGRAM

Solid - Plus
Dotted - Minus

DELTAY =
DELTAX =

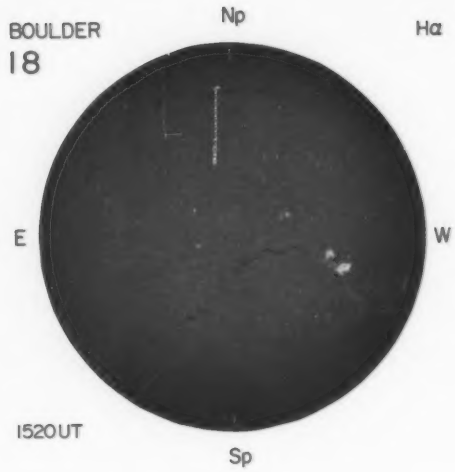
E

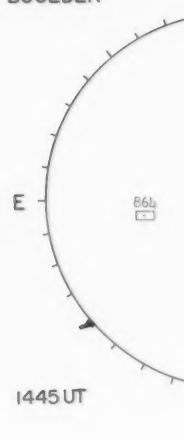
NO DATA

W

Levels
± 5
± 10
± 20
± 40
± 80

Sp


BOULDER
18
Np
Hα
E
W
Sp
1520 UT


BOULDER
E
864
1445 UT

Np
SUNSPOTS
876
870
849
856
W
CORONA
NO DATA
Sp

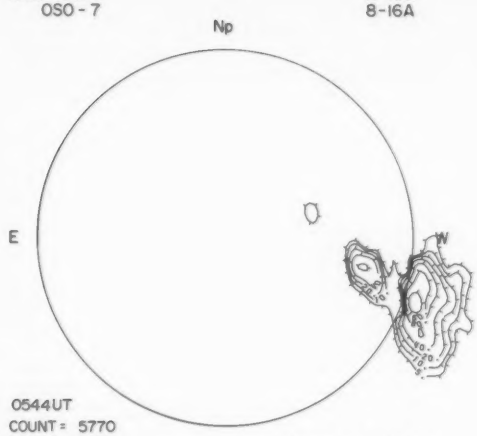
NRL
OSO-7
Np
WHITE-LIGHT
CORONA
E
W
0710-1202 UT
Sp

65
Apr 74

APRIL 19, 1974 (P=-2

NASA GSFC
OSO - 7

X-RAY
8-16A



0544UT
COUNT = 5770
ROLL = 83.8°
P-TH = -5.00

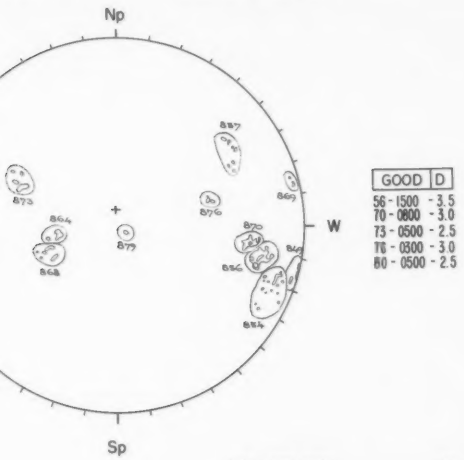
Counts per 0.125 sec.

McMATH-HULB

1330UT

=-25.82, B_o=-5.28, L_o=80.61)

HULBERT CALCIUM REPORT

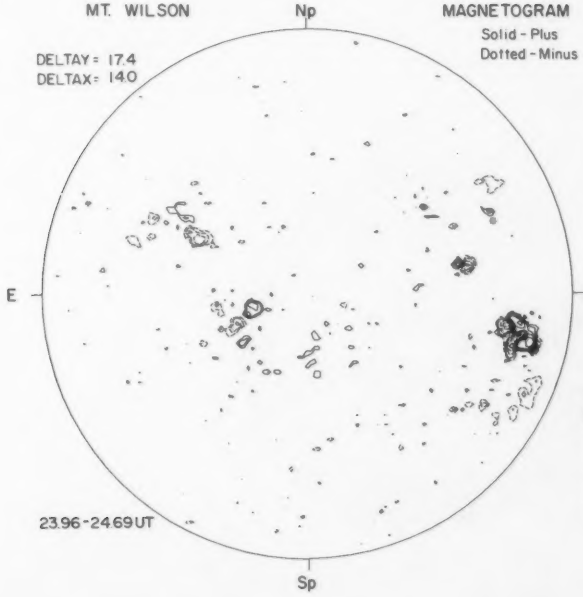


GOOD	D
56 - 1500	- 3.5
70 - 0800	- 3.0
73 - 0500	- 2.5
76 - 0300	- 3.0
80 - 0500	- 2.5

MT. WILSON MAGNETOGRAM

Solid - Plus
Dotted - Minus

DELTAY = 17.4
DELTAX = 14.0



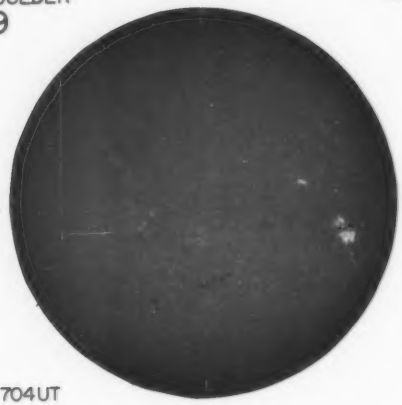
Levels
± 5
± 10
± 20
± 40
± 80

23.96-24.69 UT

BOULDER
19

Np

Hα



E

W

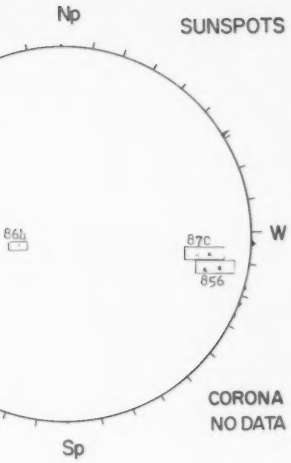
Sp

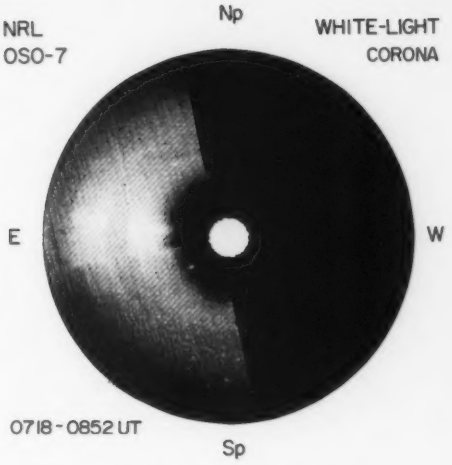
1704 UT

BOULDER

E

1730 UT


Np
SUNSPOTS
W
861
870
856
CORONA
NO DATA
Sp

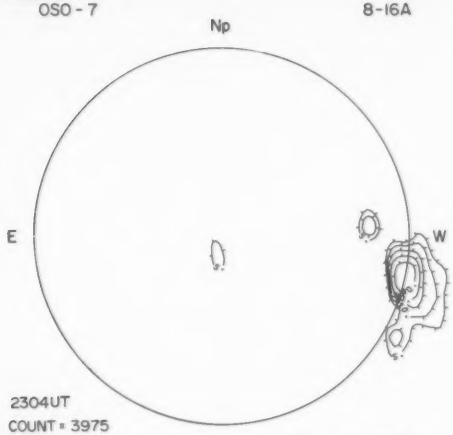

NRL
OSO-7
Np
WHITE-LIGHT
CORONA
E
W
0718 - 0852 UT
Sp

67
Apr 74

APRIL 20, 1974 (P=-2

NASA GSFC
OSO-7

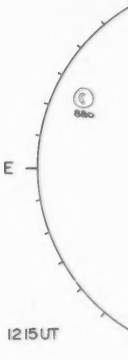
X-RAY
8-16A



2304UT
COUNT = 3975
ROLL = 89.3°
P-TH = -5.15

Counts per 0.125 sec.

McMATH-HUL

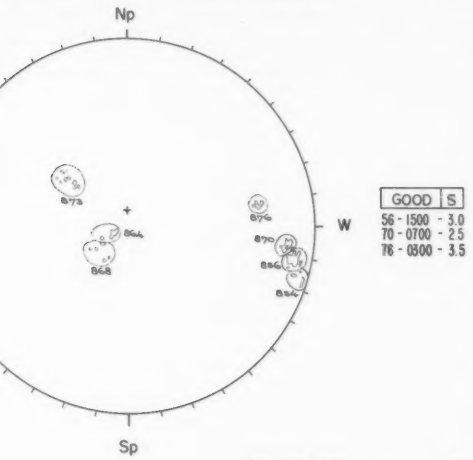


1215UT

=-25.73, B_o=-5.20, L_o=67.41)

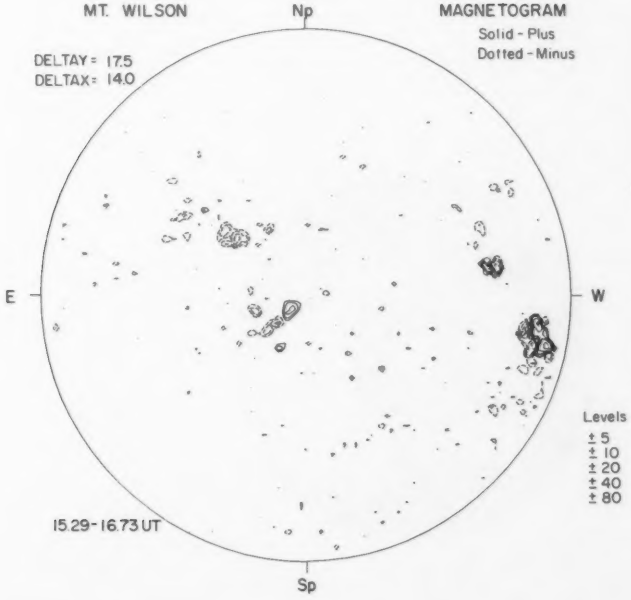
68
Apr 74

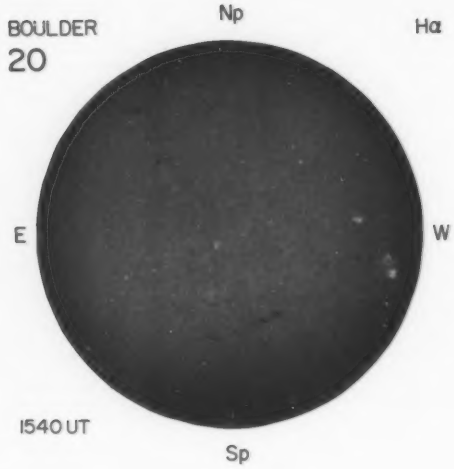
HULBERT CALCIUM REPORT

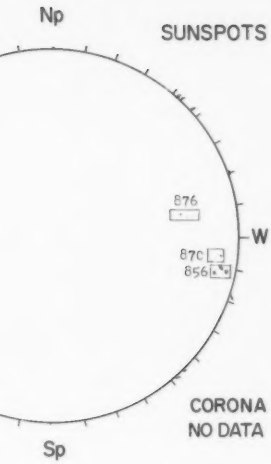


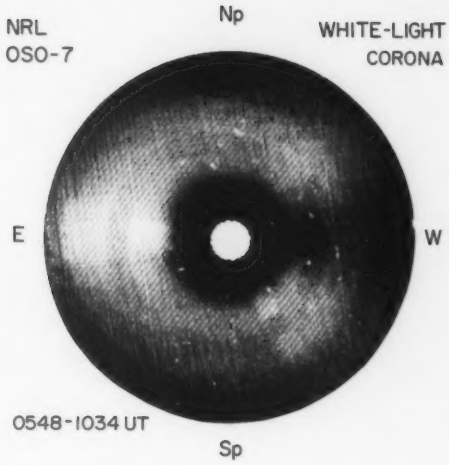
GOOD	S
56 - 1500	- 3.0
70 - 0700	- 2.5
76 - 0300	- 3.5

MT. WILSON MAGNETOGRAM




BOULDER
20
Np
Hα
E
W
1540 UT
Sp
BOULDER
E
1700 UT

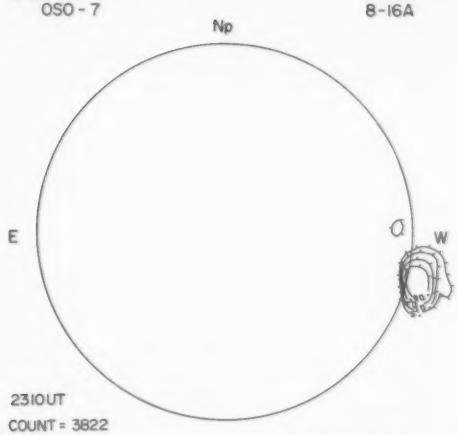

Np
SUNSPOTS
876
W
870
856
CORONA
NO DATA
Sp


NRL
OSO-7
Np
WHITE-LIGHT
CORONA
E
W
0548-1034 UT
Sp

APRIL 21, 1974 (P=-

NASA GSFC
OSO - 7

X-RAY
8-16A



2310UT
COUNT = 3822
ROLL = 92.2°
P-TH = -5.23

Counts per 0.125 sec.

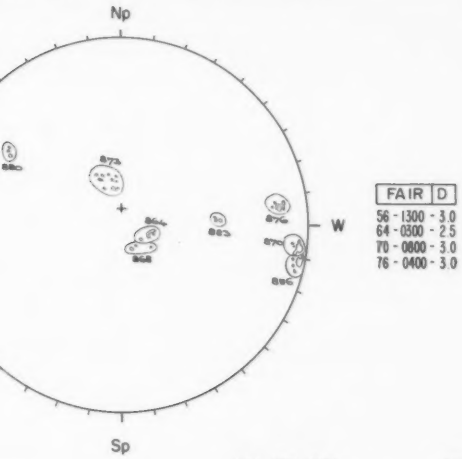
McMATH-HUL

1330UT

=-25.63, B_o=-5.11, L_o=54.20)

70
Apr 74

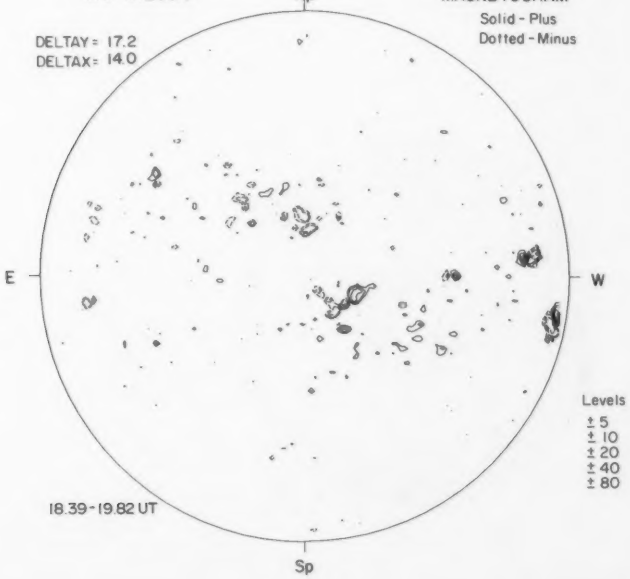
HULBERT CALCIUM REPORT

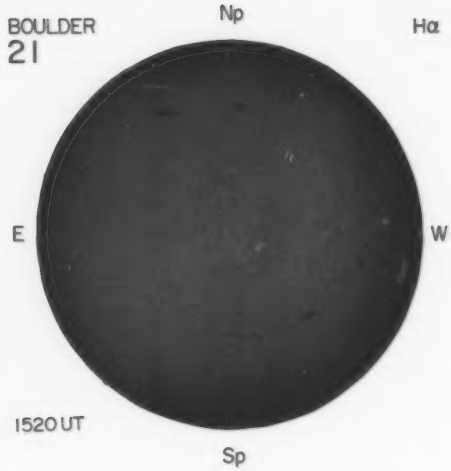


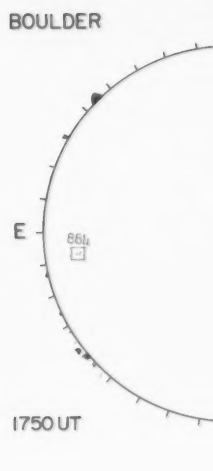
FAIR	D
56 - 1300	3.0
64 - 0300	2.5
70 - 0800	3.0
76 - 0400	3.0

MT. WILSON MAGNETOGRAM

Solid - Plus
Dotted - Minus

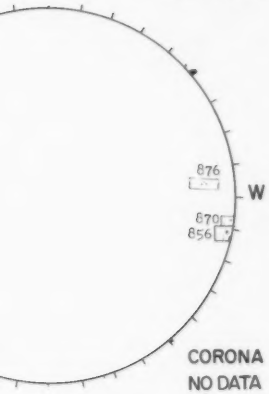



BOULDER
21
Np
Hα
E
W
1520 UT
Sp


BOULDER
E
1750 UT

Np

SUNSPOTS



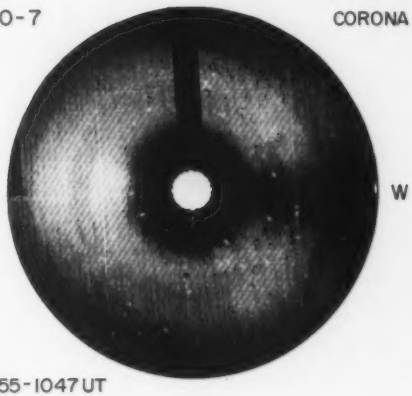
CORONA
NO DATA

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



0555-1047 UT

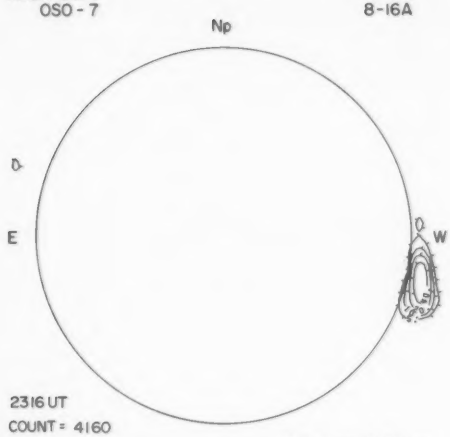
Sp

71
Apr 74

APRIL 22, 1974 (P=-2

NASA GSFC
OSO-7

X-RAY
8-16A



2316 UT
COUNT = 4160
ROLL = 94.6°
P-TH = -5.32

Counts per 0.125 sec.

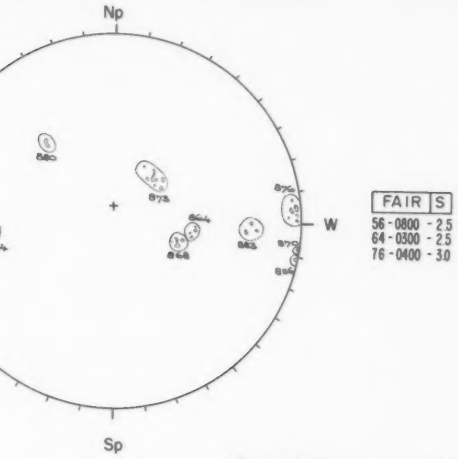
McMATH-HULB

1845 UT

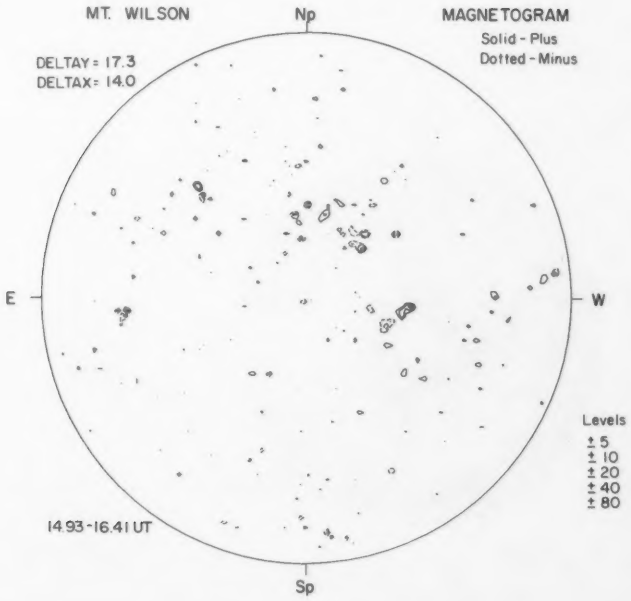
=-25.53, B_o=-5.02, L_o=40.99)

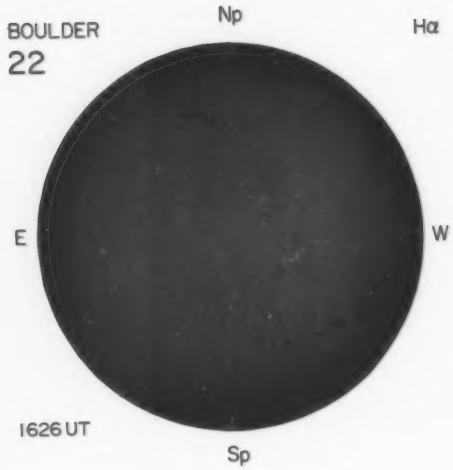
72
Apr 74

ULBERT CALCIUM REPORT



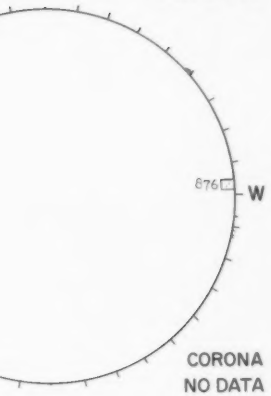
FAIR	S
56 - 0800	- 2.5
64 - 0300	- 2.5
76 - 0400	- 3.0




BOULDER
22
Np
Hα
E
W
1626 UT
Sp
BOULDER
E
1600 UT

Np

SUNSPOTS



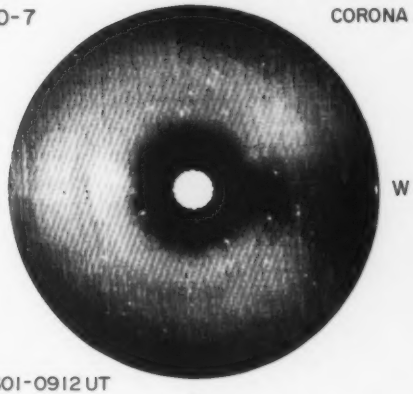
CORONA
NO DATA

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



0601-0912 UT

Sp

73
Apr 74

APRIL 23, 1974 (P=-2

NASA GSFC
OSO - 7

X-RAY
8-16A

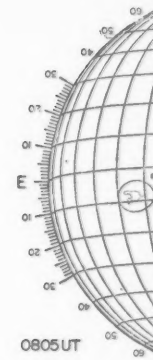
CATANIA

Np

E

NO DATA

W



COUNT =
ROLL =
P-TH =

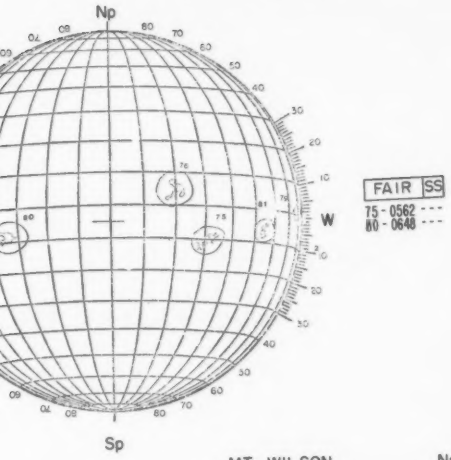
Sp

Counts per 0.125 sec.

-25.42, B_o = -4.93, L_o = 27.78)

74
Apr 74

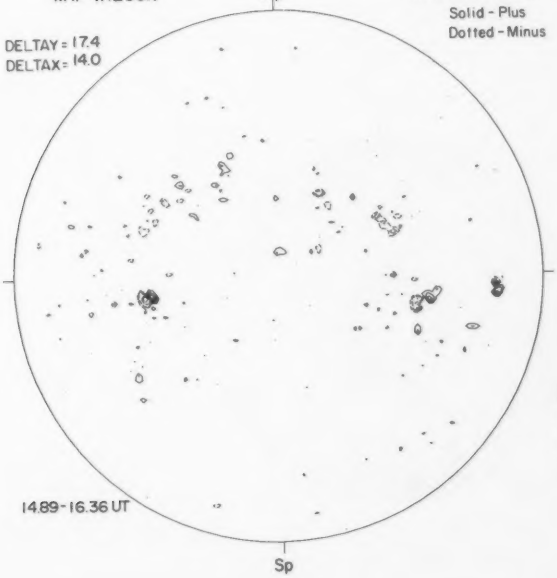
CALCIUM REPORT



FAIR SS
75 - 0562 ---
80 - 0648 ---

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

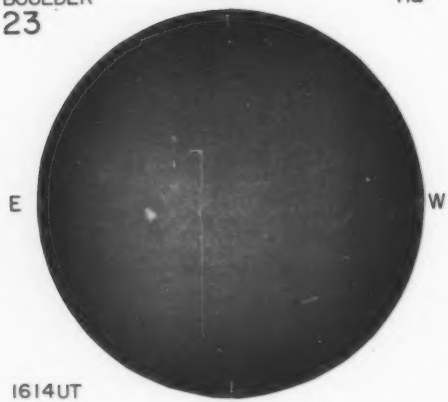


MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
± 5
± 10
± 20
± 40
± 80

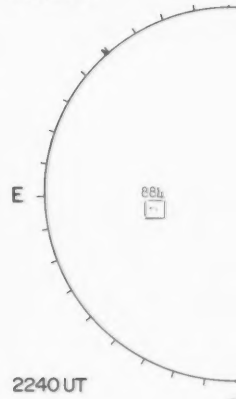
14.89 - 16.36 UT

BOULDER
23



1614 UT

BOULDER



2240 UT

Np

SUNSPOTS

W

CORONA
NORIKURA

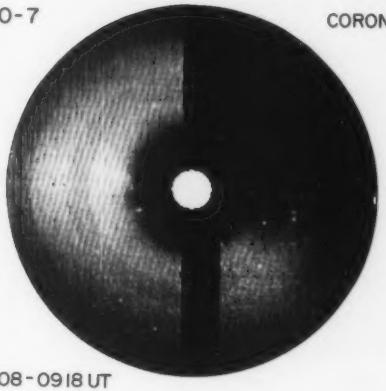
Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E



W

0608-0918 UT

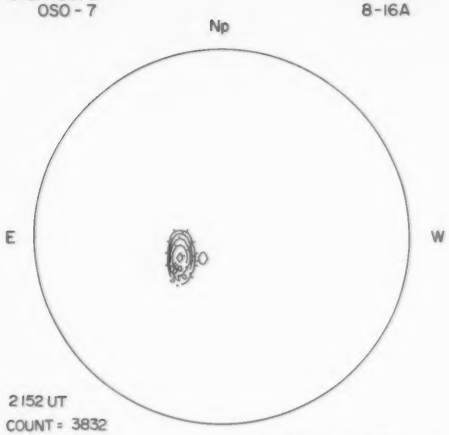
Sp

75
Apr 74

APRIL 24, 1974 (P=-2

NASA GSFC
OSO-7

X-RAY
8-16A



2152 UT
COUNT = 3832
ROLL = 97.3°
P-TH = -5.48

Counts per 0.125 sec.

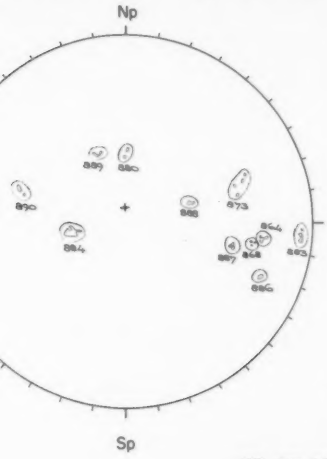
McMATH-HUL

1220 UT

=-25.30, B_o=-4.84, L_o=14.57)

76
Apr 74

-HULBERT CALCIUM REPORT



W

GOOD	S
84 - 0500	- 3.0
87 - 0200	- 2.5

MT. WILSON Np MAGNETOGRAM

Solid - Plus
Dotted - Minus

DELTAY =
DELTAX =

E **NO DATA** W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

BOULDER

24

Np

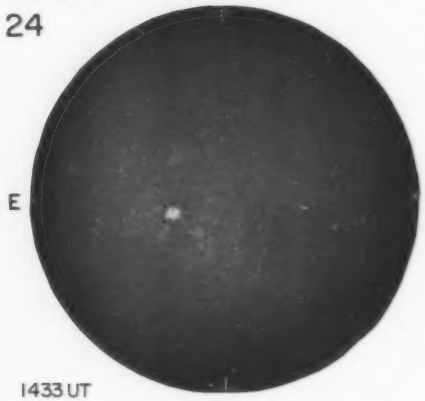
Hα

E

W

Sp

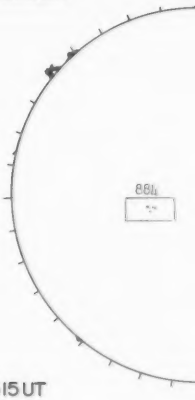
1433 UT



BOULDER

E

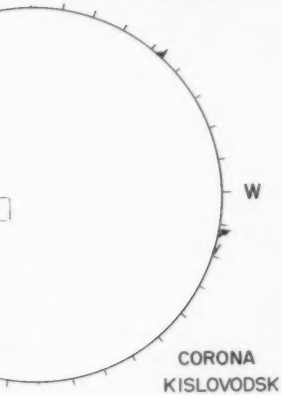
1515 UT



Np

SUNSPOTS

NRL
OSO-7



CORONA
KISLOVODSK

Sp

Np

WHITE-LIGHT
CORONA

NO DATA

W

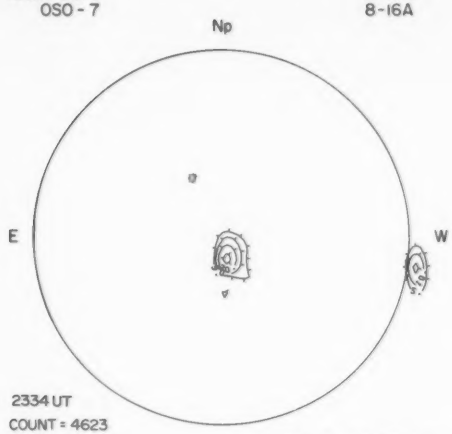
Sp

77
Apr 74

APRIL 25, 1974 (P=-2

NASA GSFC
OSO-7

X-RAY
8-16A



2334 UT
COUNT = 4623
ROLL = 97.9°
P-TH = -5.56

Counts per 0.125 sec.

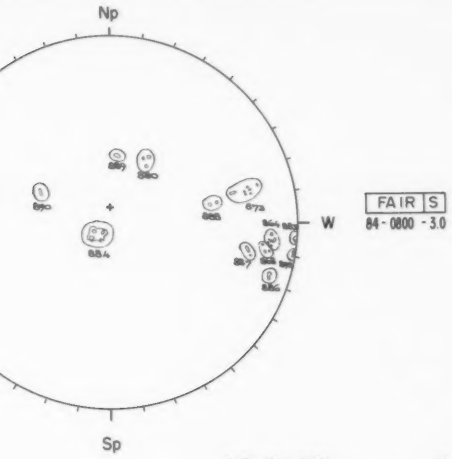
McMATH-HULB

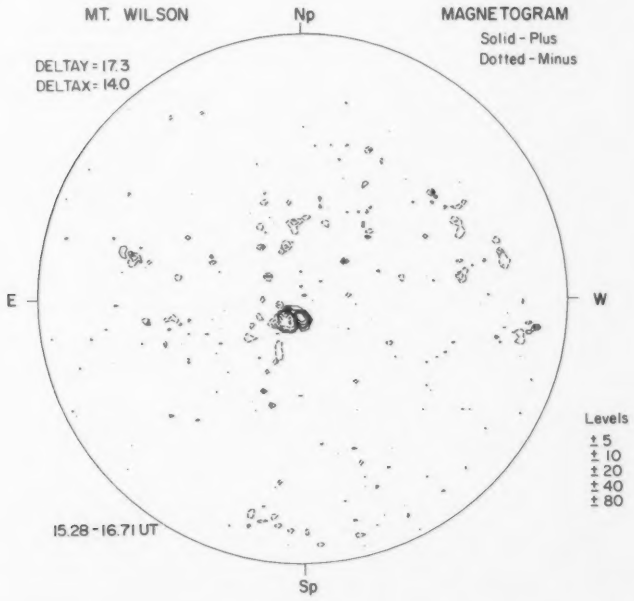
1215UT

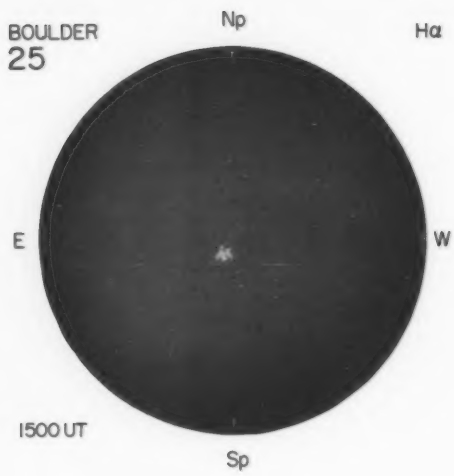
-25.17, B_o = -4.75, L_o = 1.36)

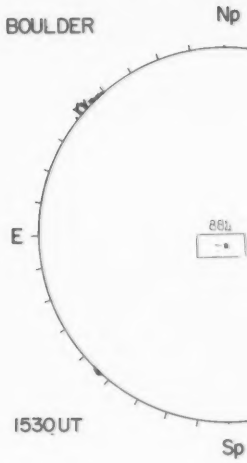
78
Apr 74

ULBERT CALCIUM REPORT





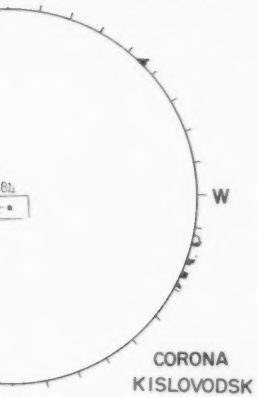

BOULDER
25
Np
Hα
E
W
1500 UT
Sp


BOULDER
Np
E
1530 UT
Sp

Np

SUNSPOTS

NRL
OSO-7



CORONA
KISLOVODSK

Sp

Np

WHITE-LIGHT
CORONA

E

NO DATA

W

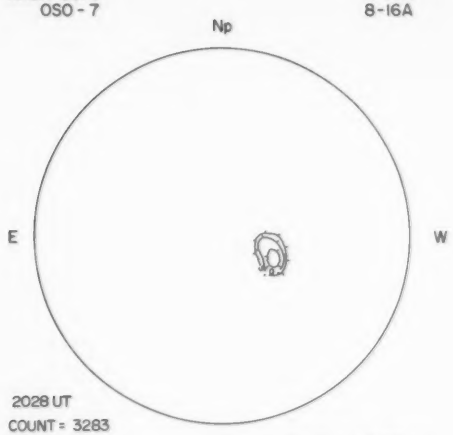
Sp

79
Apr 74

APRIL 26, 1974 (P=-25.0

NASA GSFC
OSO - 7

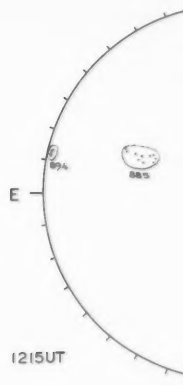
X-RAY
8-16A



2028 UT
COUNT = 3283
ROLL = 98.6°
P-TH = -5.63

Counts per 0.125 sec.

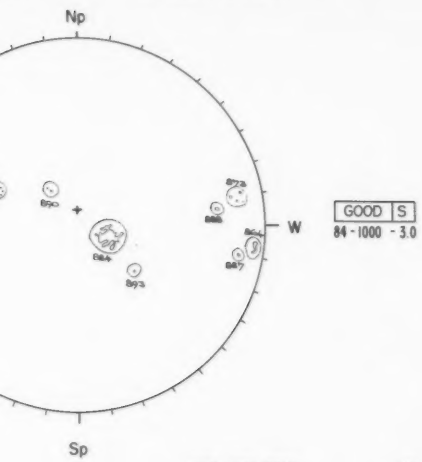
McMATH-HULBERT

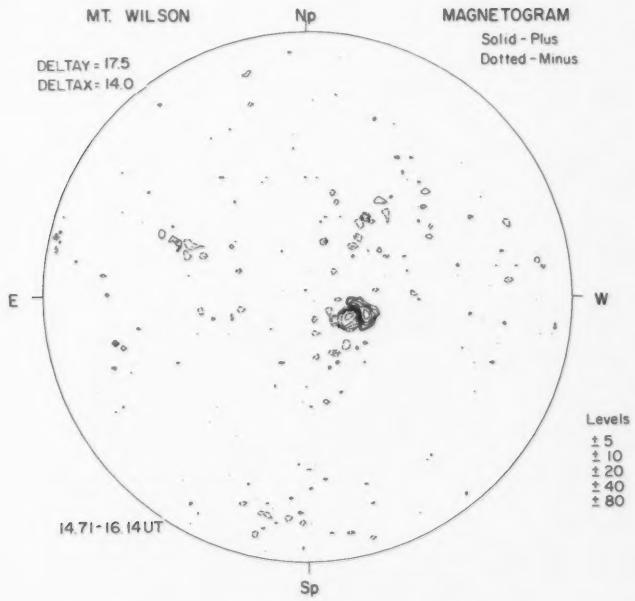


1215UT

25.03, B_o = -4.65, L_o = 348.15)

ERT CALCIUM REPORT

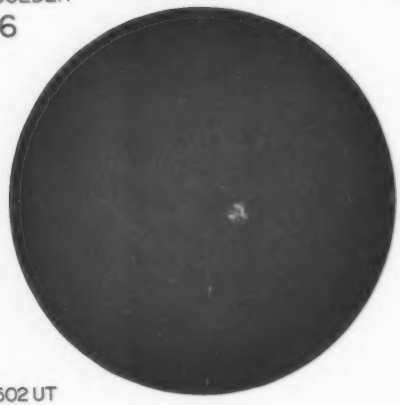




BOULDER
26

Np

Hα



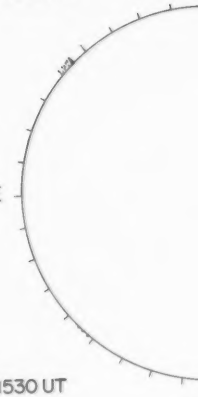
E

W

1502 UT

Sp

BOULDER



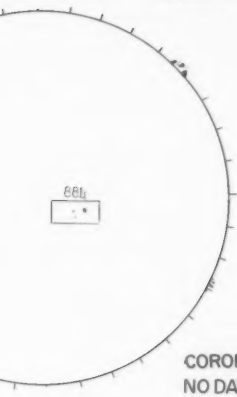
E

1530 UT

Np

SUNSPOTS

NRL
OSO-7



W

E

CORONA
NO DATA

Sp

Np

WHITE-LIGHT
CORONA

NO DATA

W

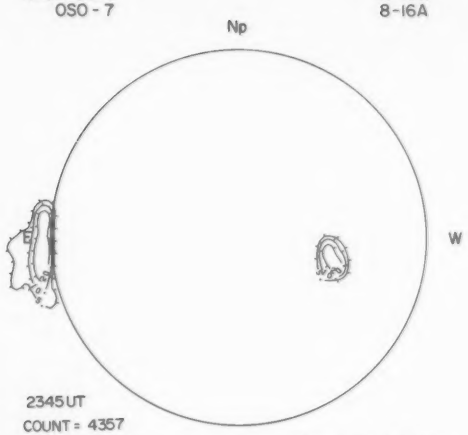
Sp

81
Apr 74

APRIL 27, 1974 (P=-24

NASA GSFC
OSO - 7

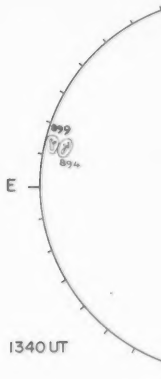
X-RAY
8-16A



2345 UT
COUNT = 4357
ROLL = 99.3°
P-TH = -5.72

Counts per 0.125 sec.

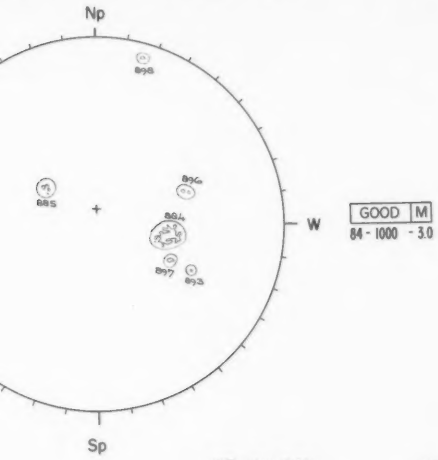
McMATH-HULBER

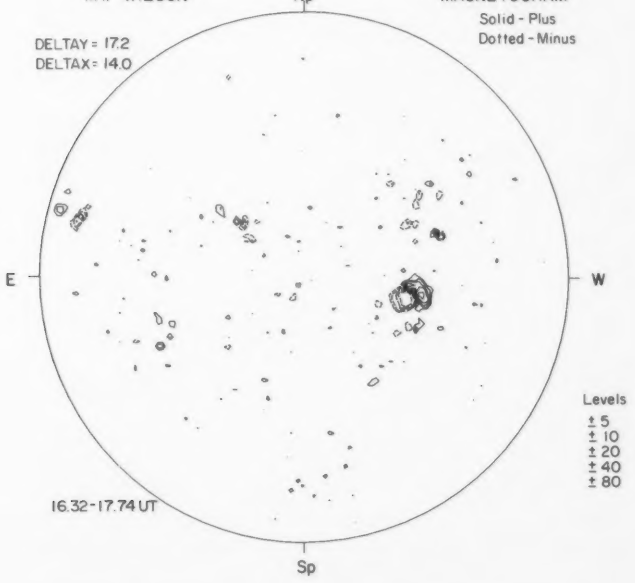


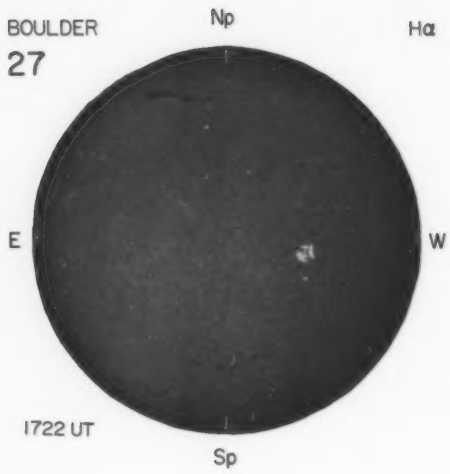
1340 UT

24.89, B_o = -4.56, L_o = 334.93)

LBERT CALCIUM REPORT

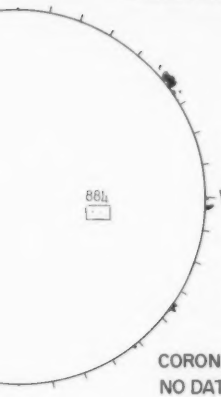





BOULDER
27
Np
Hα
E
W
1722 UT
Sp
BOULDER
Np
E
1800 UT
Sp

Np

SUNSPOTS



CORONA
NO DATA

Sp

NRL
OSO-7

E

Np

NO DATA

Sp

WHITE-LIGHT
CORONA

W

83
Apr 74

APRIL 28, 1974 (P=-

NASA GSFC
OSO - 7

X-RAY
8-16A

McMATH-HUL

Np

E

NO DATA

W

E

899

894

1230UT

COUNT =
ROLL =
P-TH =

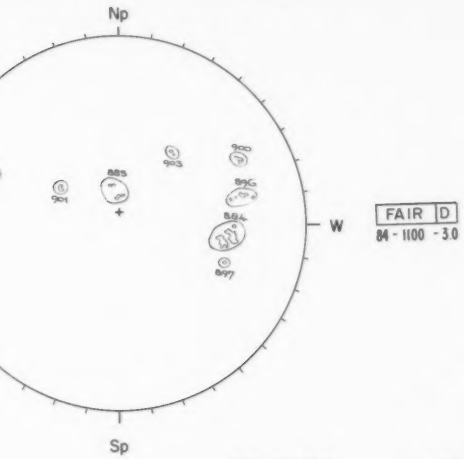
Sp

Counts per 0.125 sec.

=-24.74, B_o=-4.46, L_o=321.72)

84
Apr 74

HULBERT CALCIUM REPORT

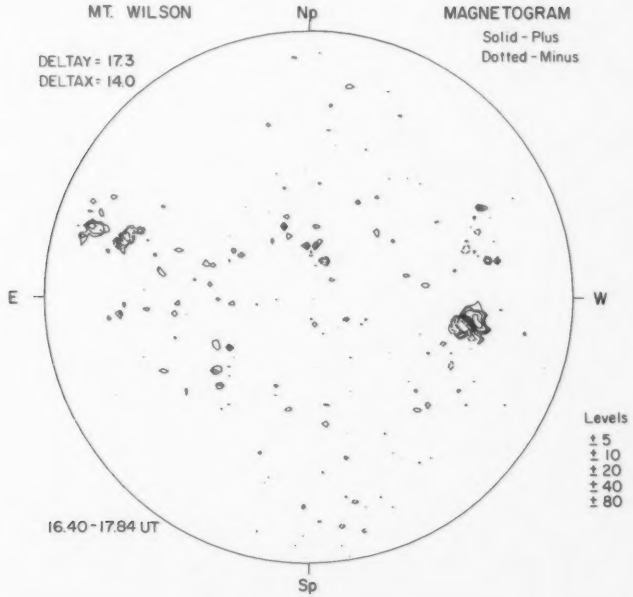


FAIR | D
84 - 1100 - 3.0

MT. WILSON MAGNETOGRAM

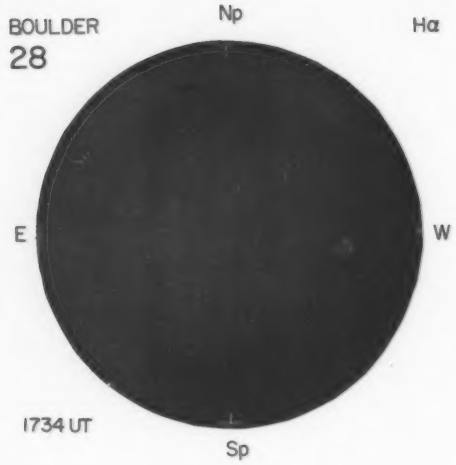
Solid - Plus
Dotted - Minus

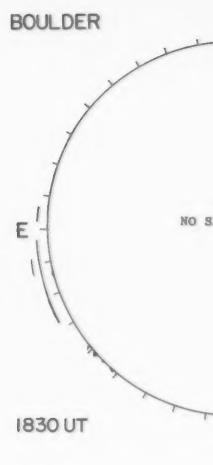
DELTAY = 17.3
DELTAX = 14.0



Levels
± 5
± 10
± 20
± 40
± 80

16.40 - 17.84 UT


BOULDER
28
Np
Hα
E
W
Sp
1734 UT

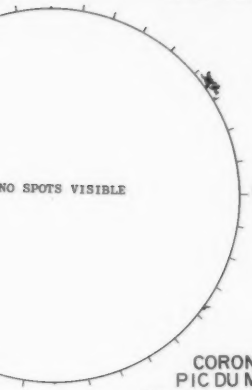

BOULDER
E
NO S
1830 UT

Np

SUNSPOTS

NRL

OSO-7



E

CORONA
PIC DU MIDI
NO DATA 210°- 360°

Sp

Np

WHITE-LIGHT
CORONA

NO DATA

W

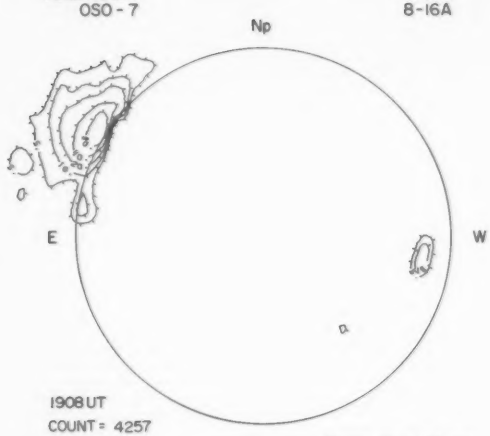
Sp

85
Apr 74

APRIL 29, 1974 (P=-2

NASA GSFC
OSO-7

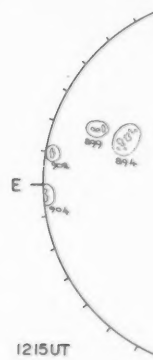
X-RAY
8-16A



1908 UT
COUNT = 4257
ROLL = 99.1°
P-TH = -5.24

Counts per 0.125 sec.

McMATH-HULBE

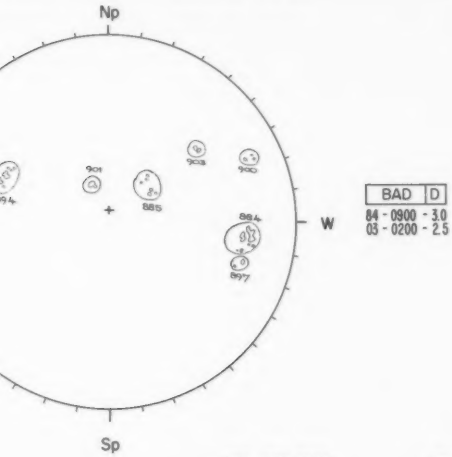


1215 UT

=-24.58, B_o=-4.37, L_o=308.51)

86
Apr 74

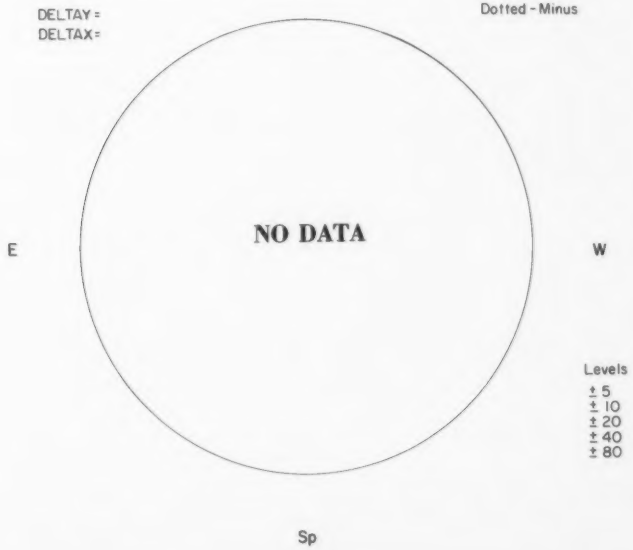
ULBERT CALCIUM REPORT



MT. WILSON Np MAGNETOGRAM

Solid - Plus
Dotted - Minus

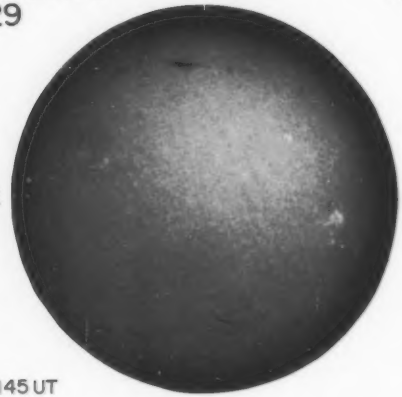
DELTAY =
DELTAX =



RAMEY AFB
29

Np

Hα



E

W

1145 UT

Sp

BOULDER

E

NO DATA

Np

SUNSPOTS

NRL
OSO-7

W

E

CORONA
NO DATA

Sp

Np

WHITE-LIGHT
CORONA

NO DATA

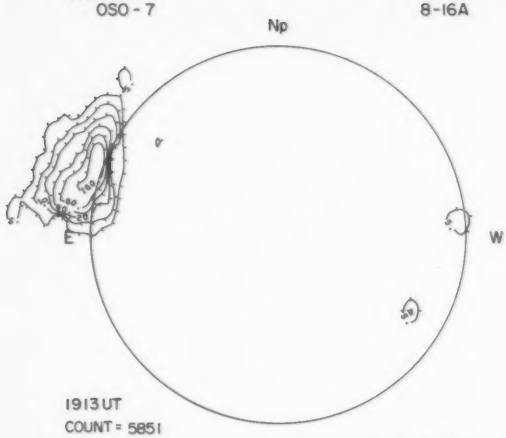
W

Sp

87
Apr 74

NASA GSFC
OSO-7

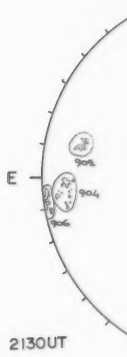
X-RAY
8-16A



1913 UT
COUNT = 5851
ROLL = 98.6°
P-TH = -5.93

Counts per 0.125 sec.

McMATH-HU

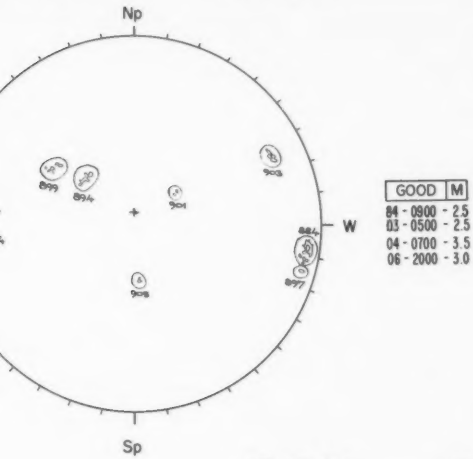


2130UT

P=-24.42, B_o=-4.27, L_o=295.29)

88
Apr 74

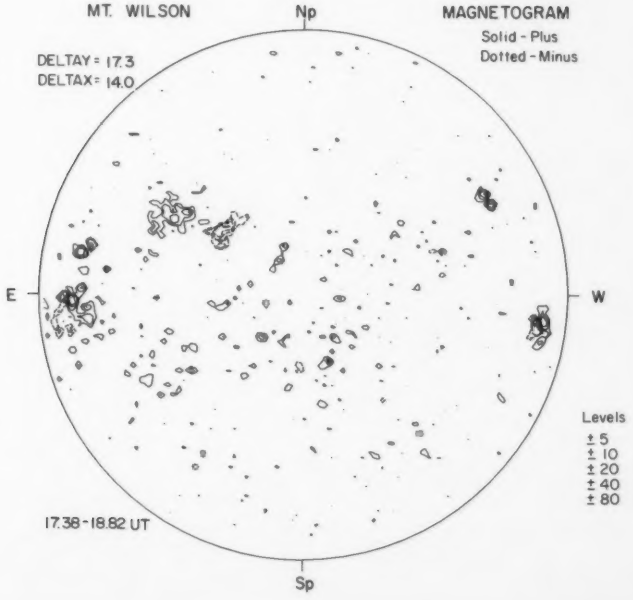
-HULBERT CALCIUM REPORT

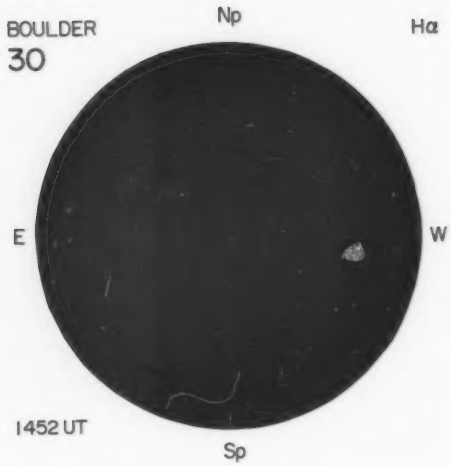


GOOD	M
84 - 0900	- 2.5
03 - 0500	- 2.5
04 - 0700	- 3.5
06 - 2000	- 3.0

MT. WILSON MAGNETOGRAM

Solid - Plus
Dotted - Minus

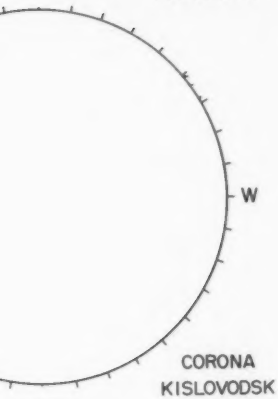



BOULDER
30
Np
Hα
E
W
1452 UT
Sp
BOULDER
E
904
906
1600 UT

Np

SUNSPOTS

NRL
OSO-7



CORONA
KISLOVODSK

Sp

E

NO DATA

Np

WHITE-LIGHT
CORONA

W

Sp

89
Apr 74

REGIONS OF SOLAR ACTIVITY

APRIL 1974

MCMATH REGION 12846 CMP DATE 1.6

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	4	12846	N36 W40	310	100	1.0									

MCMATH REGION 12841 CMP DATE 1.7

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	2	12841	S28 W12	308	100	1.0									
74	4	3	12841	S28 W24	308	100	1.0									

MCMATH REGION 12842 CMP DATE 2.8

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	2	12842	N05 E03	293	100	1.5									

MCMATH REGION 12835 CMP DATE 3.3

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	3	30							S13 E48				B	10	3	BXO
74	3	31	12835	S11 E36	286	700	2.5	19357	S11 E33	288	(BP)	2	R	10	4	BXX
74	4	1	12835	S11 E24	285	700	2.5	19357	S12 E21	287	(BP)	3	B	30	7	CSO
74	4	2	12835	S11 E10	286	500	2.0	19357	S11 E06	286	(BP)	2	R	20	4	CRO
74	4	3	12835	S11 W03	287	500	2.5	19357	S11 W03	287	(BP	2	R	0	1	BXX
74	4	4	12835	S11 W17	287	500	2.5	19357	S11 W18	287	(BF)	2	R	0	4	BXO
74	4	5						19357	S10 W30	286	X	1				
74	4	6	12835	S11 W44	289	500	2.0	19357	S11 W46	289	X					
74	4	8	12835	S11 W71	287	300	2.0									
74	4	9	12835	S11 W83	287	200	1.0									

MCMATH REGION 12843 CMP DATE 3.3

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	2	12843	N24 E09	287	100	1.0									

MCMATH REGION 12836 CMP DATE 3.6

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	3	31	12836	S05 E38	284	100	1.5									

MCMATH REGION 12847 CMP DATE 5.5

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	4	12847	S15 E12	258	100	1.0									

MCMATH REGION 12837 CMP DATE 5.6 RETURN OF REGION 12781 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	3	31	12837	N14 E68	254	400	2.5	19358	N12 E64	257	(BP	2	R	0	2	BXO
74	4	1	12837	N14 E55	254	600	2.5	19358	N12 E52	256	(BP)	2	B	20	5	BXO
74	4	2	12837	N14 E43	253	600	2.5	19358	N11 E36	256	(BP)	3	R	10	3	BXO
74	4	3	12837	N14 E29	255	700	2.5	19358	N11 E22	258	(AP)	2	R	20	3	CSO
74	4	4	12837	N14 E14	256	600	2.5	19358	N11 E12	257	(BF)	3	R	0	5	BXI
74	4	5						19358	N11 W01	257	(B)	3	B	30	9	CRO
74	4	6	12837	N14 W12	257	900	2.5	19358	N12 W15	258	(B)	4	B	70	10	DAI
74	4	7						19358	N12 W30	258	(BF)	4	B	60	9	DAO
74	4	8	12837	N14 W40	256	800	2.5	19358	N12 W44	259	(BP)	3	B	40	5	BXI
74	4	9	12837	N14 W53	257	900	2.5									
74	4	10	12837	N14 W66	257	800	2.5	19358	N13 W73	263	AP					

MCMATH REGION 12839 CMP DATE 6.2 RETURN OF REGION 12791 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	3	31	12839	N04 E60	242	200	1.0									
74	4	1	12839	N04 E66	243	200	1.0									
74	4	2	12839	N04 E53	243	200	1.5									
74	4	3	12839	N03 E38	246	100	1.5									
74	4	4	12839	N03 E24	246	200	1.5									
74	4	6	12839	N03 W05	250	200	1.0									
74	4	8	12839	N03 W31	247	100	1.0		N12 W30				B	60	9	DAO

The column marked STA is inserted to indicate the source of data for sunspot area, count and classification.
B = Boulder M = Manila R = Ramey

REGIONS OF SOLAR ACTIVITY

APRIL 1974

MT WILSON REGION 19360 CMP DATE 6.9

			CALCIUM	PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	7						19360	S10 W12	240	(BP	1				

MCMATH REGION 12855 CMP DATE 7.6

			CALCIUM	PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	9	12855	N03 W27	231	100	1.5									
74	4	10	12855	N03 W41	232	100	1.0									

MCMATH REGION 12845 CMP DATE 8.0 RETURN OF REGION 12784* ROTATION 3

			CALCIUM	PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	2	12845	S08 E73	223	300	1.0									
74	4	3	12845	S08 E60	224	300	1.5									
74	4	4	12845	S08 E46	224	300	1.0									
74	4	6	12845	S08 E19	226	300	1.0									
74	4	8	12845	S08 W08	224	200	1.0									

MCMATH REGION 12850 CMP DATE 9.0

			CALCIUM	PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	7						19361	S05 E15	213	B		B	0	2	AXX
74	4								S10 W11				B	0	1	AXX
74	4	8	12850	S04 E05	211	300	2.0	19361	S05 E04	211	(BP)	3	B	20	2	BXO
74	4	9	12850	S04 W08	212	300	2.0		S04 W15				B	10	4	BXO
74	4	10	12850	S04 W22	213	500	2.5	19361	S04 W26	216	(BP)	3	B	40	6	BXO
74	4	11						19361	S04 W29	207	(BP)	3	R	20	9	DRI
74	4	12	12850	S04 W53	213	800	2.5	19361	S05 W54	217	(BP)	2	B	20	9	BXO
74	4	13	12850	S04 W64	215	900	2.5	19361	S04 W65	215	(BP)	2	R	20	5	BXO
74	4	14	12850	S04 W80	217	900	2.5	19361	S04 W82	219	(BP	2				

MCMATH REGION 12865 CMP DATE 10.0

			CALCIUM	PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	15	12865	N12 W73	198	400	2.5	19365	N11 W69	193	(BP)	2	B	0	1	AXX
74	4	16	12865	N12 W86	198	500	2.0	19365	N11 W85	195	BP					

MCMATH REGION 12866 CMP DATE 10.4

			CALCIUM	PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	15	12866	N05 W68	193	100	1.0									

MCMATH REGION 12851 CMP DATE 10.7

			CALCIUM	PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	8	12851	S49 E27	189	100	1.5									

MCMATH REGION 12852 CMP DATE 10.9

			CALCIUM	PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	8	12852	N08 E30	186	300	2.0									
74	4	9	12852	N08 E17	187	300	1.5									
74	4	10	12852	N08 E04	187	200	1.0									

MCMATH REGION 12858 CMP DATE 11.0

			CALCIUM	PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	12	12858	N15 W24	184	200	1.0									
74	4	13	12858	N14 W35	186	200	1.0									
74	4	14	12858	N14 W51	188	100	1.0									
74	4	15	12858	N14 W63	188	200	2.0									
74	4	16	12858	N14 W75	187	300	2.0									

MCMATH REGION 12867 CMP DATE 11.2

			CALCIUM	PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	15	12867	N08 W57	182	300	2.0	19366	N07 W57	181	(BP)	3	B	10	3	BXO
74	4	16	12867	N08 W70	182	500	2.0	19366	N08 W74	184	(BP	1	B	10	2	BXO
74	4	17	12867	N08 W85	183	300	1.5									

*An asterisk beside the "Return of Region" number indicates that the new region is only part of the area of the old region.

REGIONS OF SOLAR ACTIVITY

APRIL 1974

MCMATH REGION 12848 CMP DATE 11.3

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	4	6	12848	S12 E63	182	900	2.5
74	4	7					
74	4	8	12848	S12 E36	180	900	2.5
74	4	9	12848	S12 E23	181	1500	3.5
74	4	10	12848	S12 E10	181	1900	3.5
74	4	11					
74	4	12	12848	S12 W22	182	2900	3.5
74	4	13	12848	S12 W34	185	3200	3.5
74	4						
74	4	14	12848	S12 W47	184	4200	3.5
74	4						
74	4	15	12848	S12 W60	185	5000	4.0
74	4						
74	4	16	12848	S12 W72	184	5000	3.5
74	4						
74	4	17	12848	S12 W85	183	4400	3.5
74	4						

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
19359	S10 E58	185	(BP	2				
19359	S12 E45	183	(BY)	3	B	20	5	BXO
19359	S13 E35	180	(BF)	3	B	50	9	BXI
	S13 E16				B	150	22	ESI
19359	S12 E06	184	(BY)	4	B	250	32	ESC
19359	S12 W06	184	(D)	5	R	650	62	EKC
19359	S12 W20	183	(D)	4	B	710	45	EKI
19359	S12 W35	185	(D)	5	R	740	52	EKC
19363	S08 W35	185	(AF)	1				
19359	S11 W49	186	(D)	5	B	660	48	FSI
19363	S08 W49	186	(BP)	4				
19363	S10 W60	184	(BP)	4	B	320	32	DAI
19359	S13 W61	185	(D)	5	B	760	73	FKI
19359	S13 W77	187	(BY)	4	B	680	35	FKI
19363	S09 W76	186	(D)	4	B	360	14	DAI
19359	S13 W89	186	X	4	B	150	16	DKI
19363	S08 W89	186	X		B	80	6	DAI

MCMATH REGION 12859 CMP DATE 13.0

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	4	12	12859	N19 E02	158	100	1.0
74	4	13	12859	N18 W08	159	200	1.5
74	4	14	12859	N18 W23	160	100	2.0
74	4	15	12859	N18 W36	161	100	1.0

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 12849 CMP DATE 13.1 RETURN OF REGION 12795 ROTATION 3

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	4	6	12849	S17 E88	157	300	1.0
74	4	8	12849	S16 E63	153	1100	2.0
74	4	9	12849	S16 E48	156	1000	2.0
74	4	10	12849	S16 E34	157	1200	2.5
74	4	11					
74	4	12	12849	S16 E03	157	1400	3.0
74	4	13	12849	S16 W10	161	1600	2.0
74	4	14	12849	S16 W24	161	2100	3.0
74	4	15	12849	S16 W37	162	2800	4.5
74	4	16	12849	S15 W50	162	3000	3.5
74	4	17	12849	S15 W63	161	3000	3.5
74	4	18	12849	S14 W76	161	3000	3.0
74	4	19	12849	S15 W85	157	800	1.0

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
19362	S17 E54	161	(BP	2				
	S15 E35				B	0	2	AXX
19362	S15 E24	166	(AP)	2	B	0	1	AXX
19362	S16 E14	163	(BP)	3	B	10	4	CRO
19362	S16 E01	162	(BP)	3	B	20	13	BXO
19362	S16 W15	165	(BP)	3	B	40	6	DSO
19362	S16 W27	164	(BP)	4	B	40	15	BXI
19362	S15 W42	166	(BP)	4	B	100	27	DSI
19362	S14 W55	165	(D)	4	B	140	12	DAI
19362	S13 W69	166	(D)	4	B	150	12	DAI
	S13 W81				B	100	9	DAI

MCMATH REGION 12860 CMP DATE 13.2

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	4	12	12860	N02 E05	155	100	1.0

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 12874 CMP DATE 13.5

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	4	16	12874	N10 W40	152	100	1.0
74	4	17	12874	N10 W54	152	100	1.0

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 12861 CMP DATE 13.8

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	4	12	12861	N13 E12	148	100	1.0
74	4	13	12861	N13 E01	150	100	1.0

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 12869 CMP DATE 13.9

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	4	16	12869	N10 W35	147	100	2.5
74	4	17	12869	N10 W48	146	200	2.0
74	4	18	12869	N11 W61	146	300	1.5
74	4	19	12869	N11 W77	149	300	1.5

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 12854 CMP DATE 14.3 RETURN OF REGION 12797* 12795* ROTATION 3

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	4	8	12854	S22 E75	141	800	1.0
74	4	9	12854	S23 E61	143	700	1.0
74	4	10	12854	S23 E48	143	900	1.5
74	4	12	12854	S23 E19	141	900	1.5
74	4	13	12854	S24 E10	141	1000	1.5
74	4	14	12854	S23 W04	141	900	1.5
74	4	15	12854	S23 W17	142	900	1.5
74	4	16	12854	S23 W29	141	900	1.5

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

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REGIONS OF SOLAR ACTIVITY

APRIL 1974

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74	4	17	12854	S23 W41	139	900	1.5
74	4	18	12854	S23 W54	139	800	1.0
74	4	19	12854	S22 W65	137	800	1.5
74	4	20	12854	S19 W78	138	500	1.0

MCMATH REGION 12853 CMP DATE 14.7

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	8	12853	N11 E88	128	300	1.5									
74	4	9	12853	N10 E68	136	300	1.0									
74	4	10	12853	N10 E55	136	200	1.0									

MCMATH REGION 12863 CMP DATE 15.5

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	14	12863	N41 E11	126	100	1.5									

MCMATH REGION 12856 CMP DATE 15.9

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	10	12856	S13 E70	121	200	2.0									
74	4	12	12856	S13 E40	120	200	1.0									
74	4	13	12856	S13 E29	122	200	1.0									
74	4	14	12856	S13 E16	121	200	1.0									
74	4	15	12856	S14 E04	121	100	1.5									
74	4	16	12856	S13 W10	122	300	1.5	19367	S12 W14	124	(A)	2	B	10	2	BXO
74	4	17	12856	S13 W24	122	400	3.0	19367	S12 W24	121	(BF)	3	B	10	2	BXO
74	4	18	12856	S13 W37	122	900	3.5		S13 W39				B	50	19	DAI
74	4	19	12856	S13 W52	124	1500	3.5	19367	S13 W55	126	(B)	4	B	120	10	DSO
74	4	20	12856	S13 W65	125	1500	3.0	19367	S13 W71	126	BP		B	260	7	ESO
74	4	21	12856	S13 W76	122	1300	3.0	19367	S13 W80	124	B		B	200	12	ESO
74	4	22	12856	S13 W90	119	800	2.5		S13 W81				B	200	12	ESO

MCMATH REGION 12870 CMP DATE 16.2

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	15	12870	S10 E08	117	200	1.0									
74	4	16	12870	S10 W04	116	200	2.5									
74	4	17	12870	S08 W18	116	200	3.0	19368	S09 W20	117	(BP	1	B	0	1	AXX
74	4	18	12870	S08 W32	117	400	3.5		S09 W33				B	10	7	BXO
74	4	19	12870	S08 W45	117	800	3.0	19368	S09 W49	120	(BP)	4	B	60	7	CSO
74	4	20	12870	S08 W59	119	700	2.5	19368	S09 W68	123	BP					
74	4	21	12870	S09 W72	118	800	3.0	19368	S08 W80	124	AP		B	60	5	CSO
74	4	22	12870	S08 W88	117	500	1.0									

MCMATH REGION 12857 CMP DATE 16.4 RETURN OF REGION 12820 ROTATION 2

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	10	12857	N17 E83	108	300	1.5									
74	4	12	12857	N18 E47	113	200	1.0									
74	4	13	12857	N17 E37	114	300	1.0									
74	4	14	12857	N17 E24	113	300	1.5									
74	4	15	12857	N17 E11	114	200	1.5									
74	4	16	12857	N17 W02	114	200	1.5									
74	4	17	12857	N18 W15	113	300	2.0									
74	4	18	12857	N17 W28	113	300	1.0									
74	4	19	12857	N17 W41	113	300	1.0									

MCMATH REGION 12871 CMP DATE 17.2

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	16	12871	N02 E09	103	100	2.0									

MCMATH REGION 12876 CMP DATE 17.3

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	18	12876	N04 W17	102	300	3.5		N02 W16				B	0	3	AXX
74	4	19	12876	N04 W30	102	300	3.0									
74	4	20	12876	N04 W44	104	300	3.5	19369	N03 W48	103	BF		B	30	2	CSO
74	4	21	12876	N04 W57	103	400	3.0	19369	N03 W58	102	BF)	3	B	10	3	BXO
74	4	22	12876	N04 W75	104	400	3.0		N03 W72				B	10	2	BXO

MCMATH REGION 12862 CMP DATE 17.8

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	12	12862	N12 E69	91	100	1.0									
74	4	13	12862	N14 E57	94	300	1.0									
74	4	14	12862	N14 E42	95	200	1.0									
74	4	15	12862	N14 E29	96	200	1.0									

REGIONS OF SOLAR ACTIVITY

APRIL 1974

MCMATH REGION 12877 CMP DATE 18.2

CALCIUM PLAGE DATA						SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	18	12877	S03 W04	89	100	1.5									

MCMATH REGION 12892 CMP DATE 18.8

CALCIUM PLAGE DATA						SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	25	12892	S10 W88	82	300	2.0									

MCMATH REGION 12878 CMP DATE 18.9

CALCIUM PLAGE DATA						SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	18	12878	S14 E05	80	100	2.0									

MCMATH REGION 12883 CMP DATE 19.2

CALCIUM PLAGE DATA						SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	21	12883	S02 W31	77	200	2.0									
74	4	22	12883	S04 W40	77	300	1.5									
74	4	24	12883	S05 W71	70	300	2.0									
74	4	25	12883	S05 W87	61	300	1.0									

MCMATH REGION 12879 CMP DATE 19.5

CALCIUM PLAGE DATA						SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	18	12879	S08 E12	73	200	2.5									
74	4	19	12879	S08 W03	75	200	2.0									

MCMATH REGION 12886 CMP DATE 20.7

CALCIUM PLAGE DATA						SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	24	12886	S20 W50	57	200	1.5									
74	4	25	12886	S19 W65	59	200	1.5									

MCMATH REGION 12864 CMP DATE 20.9 RETURN OF REGION 12812 ROTATION 2

CALCIUM PLAGE DATA						SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	14	12864	S08 E85	52	300	1.5									
74	4	15	12864	S08 E75	50	300	2.0	19364	S08 E68	56	(AP)	3	B	20	2	HSX
74	4	16	12864	S08 E59	53	300	2.0	19364	S08 E55	56	(AP)	3	B	20	1	HSX
74	4	17	12864	S08 E46	52	300	2.0	19364	S08 E42	55	(AP)	3	B	10	1	AXX
74	4	18	12864	S08 E32	53	300	1.5		S08 E29				B	10	1	AXX
74	4	19	12864	S08 E19	53	400	1.5	19364	S08 E15	56	(AP)	2	B	0	1	AXX
74	4	20	12864	S08 E05	55	300	1.5	19364	S08 E01	54	AP					
74	4	21	12864	S08 W08	54	300	2.5	19364	S08 W11	55	AP					
74	4	22	12864	S08 W26	55	300	2.5									
74	4	24	12864	S08 W48	55	300	1.5									
74	4	25	12864	S08 W60	54	300	1.5									
74	4	26	12864	S08 W74	55	300	1.5									

MCMATH REGION 12868 CMP DATE 21.2

CALCIUM PLAGE DATA						SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	14	12868	S12 E85	52	300	1.5									
74	4	15	12868	S12 E70	47	200	2.0									
74	4	16	12868	S12 E64	48	200	2.5									
74	4	17	12868	S12 E50	48	100	1.0									
74	4	18	12868	S11 E37	48	100	1.5									
74	4	19	12868	S12 E22	50	300	1.5									
74	4	20	12868	S12 E09	51	300	1.5									
74	4	21	12868	S12 W06	52	200	2.0									
74	4	22	12868	S12 W22	51	300	2.0									
74	4	24	12868	S10 W44	51	200	1.5									
74	4	25	12868	S11 W57	51	200	1.0									

MCMATH REGION 12887 CMP DATE 21.8

CALCIUM PLAGE DATA						SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	24	12887	S12 W36	43	200	2.5									
74	4	25	12887	S12 W49	43	200	1.5									
74	4	26	12887	S12 W60	41	100	1.5									

REGIONS OF SOLAR ACTIVITY

APRIL 1974

MCMATH REGION 12873 CMP DATE 21.9 RETURN OF REGION 12834 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
74	4	16	12873	N08 E74	38	300	2.0							
74	4	17	12873	N08 E60	38	300	2.0							
74	4	18	12873	N08 E46	39	300	2.5							
74	4	19	12873	N08 E31	41	500	2.5							
74	4	20	12873	N08 E17	43	500	1.5							
74	4	21	12873	N08 E05	41	400	1.5							
74	4	22	12873	N08 W12	41	400	1.5							
74	4	24	12873	N08 W38	45	200	1.0							
74	4	25	12873	N07 W48	42	400	1.0							
74	4	26	12873	N07 W60	41	200	1.0							

MCMATH REGION 12872 CMP DATE 22.6

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
74	4	16	12872	S12 E79	33	100	1.0							
74	4	17	12872	S13 E66	32	100	1.5							
74	4	18	12872	S14 E53	32	100	1.5							

MCMATH REGION 12888 CMP DATE 23.0

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
74	4	24	12888	N02 W20	27	200	1.5							
74	4	25	12888	N02 W34	28	200	1.5							
74	4	26	12888	N02 W48	29	100	1.0							

MCMATH REGION 12882 CMP DATE 23.2

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
74	4	19	12882	S06 E48	24	100	1.0							

MCMATH REGION 12880 CMP DATE 24.4

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
74	4	18	12880	N19 E85	0	200	1.0							
74	4	19	12880	N18 E68	4	500	2.5							
74	4	20	12880	N19 E55	5	300	1.5							
74	4	21	12880	N19 E39	7	200	2.0							
74	4	22	12880	N19 E22	7	200	2.0							
74	4	24	12880	N17 W01	8	200	1.0							
74	4	25	12880	N16 W13	7	200	1.0							

MCMATH REGION 12893 CMP DATE 25.1

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
74	4	26	12893	S19 W19	0	100	1.0							
74	4	27	12893	S19 W32	359	100	1.0							

MCMATH REGION 12889 CMP DATE 25.2

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
74	4	24	12889	N17 E09	359	200	1.0							
74	4	25	12889	N17 W03	358	100	1.5							

MCMATH REGION 12898 CMP DATE 25.3

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
74	4	27	12898	N58 W30	357	100	1.5							

MCMATH REGION 12900 CMP DATE 25.3

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
74	4	28	12900	N17 W42	357	300	1.0							
74	4	29	12900	N17 W53	355	200	1.0							

MCMATH REGION 12896 CMP DATE 25.4

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
74	4	27	12896	N05 W29	356	200	2.0							
74	4	28	12896	N05 W42	357	300	1.0							

REGIONS OF SOLAR ACTIVITY

APRIL 1974

MCMATH REGION 12897 CMP DATE 25.7

YR	MO	DA	MC NO.	CALCIUM PLAGE DATA LAT CMD	L	AREA	INT	SUNSPOT DATA MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	27	12897	S16 W24	351	200	2.0									
74	4	28	12897	S16 W36	351	100	1.5									
74	4	29	12897	S16 W47	349	100	1.5									
74	4	30	12897	S16 W68	352	100	1.0									
74	5	1	12897	S16 W77	352	100	1.0									

MCMATH REGION 12884 CMP DATE 25.8

YR	MO	DA	MC NO.	CALCIUM PLAGE DATA LAT CMD	L	AREA	INT	SUNSPOT DATA MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	21	12884	S08 E59	348	100	2.0	19370	S08 E56	349	(AP)	1	B	0	3	AXX
74	4	22	12884	S08 E42	348	200	2.0	19370	S08 E41	348	X		B	0	3	AXX
74	4	23						19370	S09 E28	352	BF)	2	B	30	7	BXO
74	4	24	12884	S08 E17	351	500	3.0		S08 E15				B	50	9	BXO
74	4	25	12884	S08 E04	351	800	3.0	19370	S08 E02	352	(BP)	4	B	60	14	CAO
74	4	26	12884	S08 W10	351	1000	3.0	19370	S09 W11	351	(B)	3	B	80	12	CAO
74	4	27	12884	S08 W24	351	1000	3.0	19370	S09 W27	351	(BP)	2	B	20	5	BXO
74	4	28	12884	S08 W36	351	1100	3.0		S08 W28				H	60	6	BXO
74	4	29	12884	S08 W48	350	900	3.0									
74	4	30	12884	S08 W69	353	900	2.5									
74	5	1	12884	S08 W79	354	900	2.5									

MCMATH REGION 12890 CMP DATE 27.2

YR	MO	DA	MC NO.	CALCIUM PLAGE DATA LAT CMD	L	AREA	INT	SUNSPOT DATA MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	24	12890	N05 E34	334	200	1.0									
74	4	25	12890	N05 E22	333	100	1.5									
74	4	26	12890	N05 E09	332	100	1.5									

MCMATH REGION 12903 CMP DATE 27.2

YR	MO	DA	MC NO.	CALCIUM PLAGE DATA LAT CMD	L	AREA	INT	SUNSPOT DATA MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	28	12903	N18 W17	332	200	1.0									
74	4	29	12903	N18 W29	331	200	2.5	19372	N20 W33	333	(A)	2	R	0	1	AXX
74	4	30	12903	N18 W50	334	500	2.5									
74	5	1	12903	N18 W57	332	400	2.5									
74	5	2	12903	N18 W70	331	400	2.0									
74	5	3	12903	N19 W85	332	300	1.0									

MCMATH REGION 12885 CMP DATE 28.7

YR	MO	DA	MC NO.	CALCIUM PLAGE DATA LAT CMD	L	AREA	INT	SUNSPOT DATA MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	22	12885	N07 E89	301	100	1.5									
74	4	24	12885	N07 E56	312	300	2.0									
74	4	25	12885	N07 E43	312	200	1.0									
74	4	26	12885	N07 E30	311	200	1.0									
74	4	27	12885	N07 E16	311	200	1.5									
74	4	28	12885	N07 E02	313	200	1.5									
74	4	29	12885	N07 W12	314	300	1.0									

MCMATH REGION 12901 CMP DATE 29.9

YR	MO	DA	MC NO.	CALCIUM PLAGE DATA LAT CMD	L	AREA	INT	SUNSPOT DATA MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	28	12901	N07 E18	297	200	1.0									
74	4	29	12901	N07 E05	297	200	1.0									
74	4	30	12901	N07 W13	297	100	1.0									
74	5	1	12901	N07 W22	297	500	3.5	19375	N07 W25	307	(BP)	4	B	30	12	BXO
74	5	2	12901	N07 W36	297	900	3.0	19375	N07 W41	309	(BP)	3	R	40	6	DAO
74	5	3	12901	N07 W52	299	800	2.5	19375	N07 W55	310	(BP)	4	B	40	2	CSO
74	5	4	12901	N07 W64	299	900	2.0	19375	N08 W78	320	(AP)	2	R	30	2	CSO
74	5	5	12901	N07 W78	299	600	1.5									

MCMATH REGION 12905 CMP DATE 30.8

YR	MO	DA	MC NO.	CALCIUM PLAGE DATA LAT CMD	L	AREA	INT	SUNSPOT DATA MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	30	12905	S21 W01	285	100	2.0									

Note: Region 12848 is probably mostly new plage that has formed in the location of region 12794 of the previous rotation (i.e., a resurgence of activity while on the invisible hemisphere).
Region 12489 undergoes rapid growth and development on the disk after April 8.
Region 12856 is new plage which formed in the same location as short-lived region 12810 of the previous rotation, with a considerable increase in area and intensity after April 17.
No calcium spectroheliograms were secured at the McMath-Hulbert Observatory on April 5, 7, 11 and 23, 1974.
No sunspot observations were made at Mt. Wilson Observatory on April 9 and 18, 1974.

DAILY CALCIUM PLAGE INDEX

APRIL 1974

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
74	4	1	2.6	74	4	11	*	74	4	21	4.5
74	4	2	2.7	74	4	12	16.3	74	4	22	3.1
74	4	3	3.2	74	4	13	15.8	74	4	23	*
74	4	4	3.2	74	4	14	17.8	74	4	24	4.0
74	4	5	*	74	4	15	21.9	74	4	25	4.1
74	4	6	4.3	74	4	16	15.0	74	4	26	3.8
74	4	7	*	74	4	17	9.3	74	4	27	4.2
74	4	8	6.0	74	4	18	9.2	74	4	28	4.7
74	4	9	8.8	74	4	19	9.1	74	4	29	4.2
74	4	10	12.0	74	4	20	5.2	74	4	30	4.6

* NO OBSERVATIONS

SUDDEN IONOSPHERIC DISTURBANCES

APRIL 1974

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
02	2117	2120	2118	1-	1							1	*	
03	0351	0354	0352	1-	1							1	*	
07	0650	0750	0710	1-	1				1				0705E	12837
08	1121	1226	1131	2+	1				1				1121	12852
08	2245	2245	2245	1-	1							1	2245E	12848
09	0001	0002	0001	1-	1							1	0000E	12848
09	0726	0730	0728	1-	1							1	0726	12848
09	0742	0853	0819U	1-	1			1					0745	12848
09	1502	1515	1508	1-	1	1							1510	12848
10	0421	0446	0425	1-	1				1				0420	12848
10	0708	0735	0716	1-	3				1		1		0710E	12848
10	0948	1033	0953	1-	1			1					0950E	12848
10	1252E	1328	1308	1-	1			1					1250	12848
10	1351E	1457	1353	1-	1			1					1348	12848
10	1427	1440	1430	1-	1						1		1428	12848
10	1439	1454D	1454	1-	1				1		1		1440E	12848
10	1648	1652	1650	1-	1							1	1645	12848
10	1820	1855	1835	1-	1				1				1819E	12848
10	2028	2110	2035	1-	5	1			2		3		2023	12848
10	2116	2127	2119	2	1		1						2118	12848
11	0004	0100	0009	1-	5				4				0002	12848
11	0200	0250	0205	1-	3				3				0159	12848
11	0253	0353	0301	1-	3	1			3				0252	12850
11	0940	1000	0946	1-	1				1				0950E	12848
11	1539	1615	1548	1-	5	2			4		5		1540	12848
11	2119	2130	2120	1-	1				1				2117	12848
12	0215	0237	0220	1-	1				1				0215E	12848
12	0526	0656	0553	1	3	1			3				NF	
12	1545	1619	1546	1	3	1			1	1	3		1540E	12848
12	2357	0320	0010	1-	5	2			4		4		2357	12848
13	0104E	0325	0124	2-	3	2			2		1		0111E	12848
13	0407	0850	0428	1	3				3		1		0405	12848
13	0526	0650	0533	2+	5	5	2	3	3		3		NF	
13	0658	0734	0709	2	5	5	1	3	4		2		0658	12848
13	0752	0854	0800	2-	5	5	1	4	5		3		0748	12848
13	0840	0905	0855	1-	3				1		1		0840	12848
13	0930	1030	0955	2	5	2	1	2	4		1		0932E	12848
13	1048	1220	1056	2	5	3	1	3	7		4		1046	12848
13	1154	1235	1201	1-	1				1				1154	12848
13	1232	1258	1239	1-	1			1			1		1230E	12848
13	1315	1420	1325	2+	5	5		4	7	1	10		1312	12848
13	1541	1620	1550	3-	5	6	2	5	6	1	12		1541	12848
13	1715	1730	1720	1-	5	1			1		8		1714	12848
13	1730	1750	1740	1-	1				1				1728	12848
13	1744	1808	1748	1	5	3			3		7		NF	
13	1808	1900	1815	1	5	4	1		2	1	11	1	1807	12848
13	1910	1945	1915	1-	5	3			3	1	11		1910E	12848
13	2015	2045	2021	1-	3				1		8		NF	
13	2228	2251	2232	1-	5				2	1	6	1	2218E	12848
13	2358	0105D	0023	1	1				1				2352	12850

SUDDEN IONOSPHERIC DISTURBANCES

APRIL 1974

DAY	UNIVERSAL TIME				WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE							KNOWN FLARE	McMATH REGION
	START	END	MAX	IMP		SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD		
14	0012	0030	0015	1-	5				3			1	0012	12848
14	0049	0133	0102	1-	3				2				0049	12848
14	0229	0312	0238	1-	1				1				0233E	12848
14	0506	0527	0510	1-	1				1				0506E	12848
14	0543	0609	0547	1-	3				2				0551E	12848
14	0638	0736	0644	1-	5			4	4		3		0639	12848
14	0748	0820	0754	1	3				2				0747	12848
14	0919	0950	0930	1-	1						1		0921	12848
14	1115	1215	1133	1-	5			1	2		2		1111	12848
14	1230	1355	1245	1-	5			1	2		2		1228	12848
14	1410	1438	1415	1-	5			1	2		7		1406	12848
14	1435	1445D	1445	1-	3				1		2		1436	12848
14	1456	1540	1540	1-	5	1		2	2		7		NF	
14	1646	1726	1657	1-	5				1	1	4		1645	12848
14	1756	1817	1802	1-	5	1			1	1	9		NF	
14	1912	2000	1920	1-	5	4	1		3	1	10		1914E	12848
14	2117	2135	2125	1-	5	1			1	1	7		NF	
14	2148	2225	2159	1-	5	1			4	1	8		3147	12848
14	2350	0049	0001	1-	5	1			3		7		2357	12848
15	0059	0211	0110	1	5	3			4		2		0108E	12848
15	0222	0239	0227	1-	3				2				0222E	12848
15	0321	0340	0325	1-	1				1				0321	12848
15	0432	0447	0436	1-	3				2				0435E	12848
15	0525	0611	0529	1-	3	1			3				0526	12848
15	0618	0640	0628	1-	5	1			4				0621E	12848
15	0818	0900	0830	2	3	3	1	3	3		2		0815	12848
15	0923	0958	0933	1	3				2		1		0920E	12848
15	0942	1030	0955	1+	5	3	1	2	2		2		0943E	12849
15	1040	1117	1108	1-	3				1		1		1036	12848
15	1117	1150	1123	1-	1						1		1117	12848
15	1255	1430	1320	1-	5				3		4		1254	12848
15	1307	1400	1317	2	5	4	1	1	4		6		1308	12849
15	1454	1535	1500	1-	5			1	1		5		NF	
15	1743	1750D	1750	1-	3				1		4		1741	12848
15	1803	1840	1813	1-	5				1		4	1	1807E	12848
15	1838	1911	1848	1	1	1							1838E	12848
15	1849	1951	1911	1-	5				3		3	1	1851E	12848
15	2110	2140	2120	1-	5				3		3		NF	
15	2257	2327	2310	1-	5				4		3		NF	
15	2342	0108	2400	1-	5	2			4		2		NF	
16	0237	0320	0247	1	5	3			4		1	1	0236	12848
16	0345	0442	0356	1	3	1			2		1	1	0351E	12848
16	0556	0630	0559	1-	1						1		0559E	12848
16	0733	0900	0742	2+	5	5	2	4	4		3		0732	12848
16	0959	1030	1007	1	3	1			2		1		0959E	12849
16	1105	1208	1117	2	5	3	1	4	5		4		1102E	12848
16	1204	1230	1207	1	5			1	2		2		1200	12848
16	1429	1500	1434	1	5	3	1	2	5	1	6		1430	12849
16	1505	1545	1510	1-	5	1		1	2	1	6		1509	12849
16	1620	1720	1626	3	5	6	2	6	9	1	6		1620	12849
16	1714	1750	1718	1-	5	1	1		1		5		1713	12848
16	1819	1851	1821	1-	1						1		1817	12849
16	1900	1907D	1907	1-	3				1		2		1906	12849
16	1920	2000	1932	1-	5	1			1	1	4		1919	12849
16	2006	2031	2013	1-	5				1	1	2		2002	12848
16	2033	2050D	2050	1-	5				2	1	2		2032	12849
16	2145	2215	2152	1-	5	1			5	1	4		2147	12849

SUDDEN IONOSPHERIC DISTURBANCES

APRIL 1974

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
17	0059	0156	0106	1-	3				2				0056	12849
17	0556	0641	0608	1-	5				3		1		0555E	12849
17	0645	0651	0647	1-	1			1					*	
17	0706	0715	0707	1-	1			1					0704	12849
17	0824	0846	0829U	1-	1			1					0825	12848
17	0918	1000	0926	1+	3	3		2	3		2		NF	
17	1100	1140	1105	2	5	3	1	2	5		3		NF	
17	1136	1232	1206U	1-	1			1					1137	12849
17	1441	1529	1441	1-	1				1				1442	12848
17	1615	1700	1635	1-	3				1	1	3		NF	
17	1835	1920	1845	1-	5	1			2	1	6		1835	12849
17	1924	1950	1930	1-	5					1	3	1	1924	12849
17	2322	0015	2325	1-	5	1			3	1	4	1	2321	12849
18	0035	0200	0045	2	5	3	1		4		3		NF	
18	0216	0234	0220	1-	3				2				0210E	12849
18	0242	0320	0246	1-	5	2			2				NF	
18	0441E	0459	0445	1-	1			1					0445	12849
18	0530	0545	0533	1-	3			1	1				0527	12856
18	0545	0750	0549	1-	3				1		1		0547	12856
18	0601	0640	0608	1-	5			2	3		1		0601	12849
18	0905	0950	0910	1	5	2	1		2		2		NF	
18	1035	1100	1040	1-	3				1		1		1039	12849
18	1130	1310	1207	2-	3	1		1	1		2		1130E	12849
18	1154	1300	1203	1+	5	1	1	2	4				NF	
18	1305	1340	1314U	1-	1			1					1305	12849
18	1440	1500	1447	1-	3	1			2		1		NF	
18	1800	1840	1810	1-	3				1		3		*	
18	1850	1955	1907	1+	5	4	2		4	1	6		*	
18	1958	2114	2013	2	5	5	2		4	1	6		NF	
18	2153	2323	2210	1-	5	1			4	1	5		2152	12856
18	2228	2304	2234	1-	3				1		3		NF	
19	0726	0915	0744	2	5	2	1	3	4		2		0718	X-RAY
19	0818	0855	0830	2	3		1	1	2		1		0812	12856
19	1525	1637	1540	1-	1				1				1524E	12856
20	0214	0400	0222	1-	3	1		1	3				NF	
20	0447	0542	0456	1-	1				1				0457E	12856
22	0149	0230	0154	1-	3				3				NF	
25	0030	0100	0034	1-	5	1			4		1		0027E	12884
30	0205	0350	0215	2-	5	2	1		3		2		0207E	12906
30	1309	1340	1315	1-	5	2		1	5		7		1306	12906
30	1512	1520D	1520	1-	1				1				1512	12906
30	1757	1920	1815	2-	5	4		1	5	1	5	1	1755	12906

STATIONS REPORTING FOR APRIL 1974

AAVSO (A1, A17, A26) (SEA) (A1, A19, A21, A29, A30, A31, A33, A35, A37, A38) (SES) (A31, A38) (SWF)
AREQUIPA (AQ) (SPA)
BOULDER (BO) (SCNA, SEA)
DARMSTADT (DA) (SWF)
DEBRE ZEIT (DE) (SPA)
HAWAII (HA) (SCNA)
HERSTMONCEUX (HC) (SEA)
HIRAISO (HI) (SWF)
HOBART (TA) (SEA)
HONGKONG (HK) (SWF)
HUANCAYO (HU) (SWF)
INUBO (IN) (SPA)
JOHANNESBURG (JH) (SPA)
KASUAGI (KA) (SPA)
KONA, HAWAII (KN) (SFD)
KUHLUNGSBORN (KU) (SPA, SEA)
KULA, MAUI (KL) (SPA)
MANILA (MA) (SWF, SCNA, SPA)
MCMATH (MC) (SWF, SCNA)
NATAL (NL) (SPA)
NEUSTRELITZ (NU) (SWF, SCNA)
PANSKA VES (PU) (SWF, SEA, SES)
POITIERS (PO) (SEA)
PRESTON (LO) (SEA)
SAO PAULO (UM) (SPA, SES)
SOFIA (SF) (SES)
ST. CLOUD (SC) (SES)
TABLE MOUNTAIN (TM) (SWF, SPA, LF-SPA)
TORTOSA (TS) (SEA)
UPICE (UI) (SEA)

SUDDEN IONOSPHERIC DISTURBANCES

APRIL 1974

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) and STATION
01-04	0000-2400 A35
01-06	0000-2400 KA
01-10	0000-2400 A29
01	0654-2400 UM (16 kHz)
02	0000-1132 UM (16 kHz), 2353-2400 UM (18 kHz)
03	0448-1353 TM
04	0944-0954 UM (17 kHz)
05	0012-0954 UM (18 kHz), 1015-1155 UM (18 kHz), 1400-1720 UM (17 kHz), 1727-1748 UM (17 kHz), 2355-2400 UM (18 kHz)
06	1100-1600 MC, 2354-2400 UM (18 kHz)
07	2353-2400 UM (18 kHz)
08	1155-1208 UM (17 kHz), 1200-1600 A21, 2100-2400 A35, 2354-2400 UM (18 kHz)
09	0000-2400 A35
10	1244-1400 TM, 1935-1940 TM, 2354-2400 UM (18 kHz)
11	0125-0134 UM (13 kHz), 1600-1605 TM, 1640-1652 TM
12	1354-2400 UM (18 kHz), 1422-1930 UM (17 kHz)
13	1335-1620 SC, 2354-2400 UM (18 kHz)
14	0302-1640 TM, 0930-1300 A21, 2020-2120 MC, 2212-2339 MC, 2356-2400 UM (18 kHz)
15	1607-1708 TM, 2355-2400 UM (18 kHz)
16	0630-2400 A21, 1846-1850 TM, 1857-1926 MC
17	0000-0500 A21, 0741-0902 UM (16 kHz)
18	0735-0902 UM (16 kHz), 1145-1156 UM (17 kHz), 1548-1558 UM (17 kHz), 2050-2100 UM (16 kHz)
19	0742-0914 UM (16 kHz), 1145-1155 UM (17 kHz), 1358-1712 UM (17 kHz), 1721-1724 UM (17 kHz), 1945-1956 UM (17 kHz), 2057-2100 UM (17 kHz), 2354-2400 UM (18 kHz)
20	0000-0030 UM (18 kHz), 0729-0905 UM (16 kHz), 2058-2100 UM (16 kHz), 2358-2400 UM (16 kHz)
21	0549-1416 TM, 0730-0821 UM (16 kHz)
22	0700-1339 TM, 0738-0821 UM (16 kHz)
23	0742-0835 UM (16 kHz), 1007-1336 UM (16 kHz), 1344-1351 UM (16 kHz), 2058-2100 UM (16 kHz)
24	0100-1300 A33, 0734-0814 UM (16 kHz), 1500-2000 A33, 1946-1950 TM
25	0731-0816 UM (16 kHz), 2019-2400 UM (13 kHz), 2056-2100 UM (16 kHz)
26	0000-2019 UM (13 kHz), 0600-2400 A35, 0731-0811 UM (16 kHz), 1147-1154 UM (17 kHz), 1400-1800 A33, 1407-1735 UM (17 kHz)
27-30	1800-2400 KA
27	0000-2400 A35
28	0000-0600 A35, 1245-1600 A33
29	0400-2400 A33
30	0000-2400 A33, 1612-1704 TM

SID's BY McMATH REGION

Day	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
REGION																														
37							1																							
48								1	4	11	5	3	16	16	15	8	2													
49															2	9	7	6												
50											1		1																	
52								1																						
56																		3	2	1										
84																									1					
06																														4
X-RAY												1							1											
UNKNOWN												1	1	3	4		3	7		1		1								
NO FP		1	1														1	2												

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1974

APR 1974	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
01	0000	0130	BOUL													
	0000	1006	MANI													
	0557	0752	WEIS													
	0758	1711	WEIS													
	1030	2305	SGMR													
	1316	2245	HARV													
	1230	2400	BOUL							1600	1745	1	1600	1745	1	IV
	2153	2400	MANI													
02	0000	1007	MANI													
	0000	0130	BOUL													
	0546	0809	WEIS													
	0840	1025	WEIS													
	1029	1713	WEIS													
	1029	2306	SGMR													
	1316	2245	HARV													
	2113	2400	BOUL													
	2153	2400	MANI													
03	0000	1007	MANI													
	0000	0130	BOUL													
	0546	0630	WEIS													
	0710	1714	WEIS													
	1027	2307	SGMR													
	1230	1800	BOUL													
	1315	2245	HARV													
	2100	2400	BOUL													
	2152	2400	MANI													
04	0000	1007	MANI													
	0548	1626	WEIS													
	1025	2306	SGMR													
	1316	2245	HARV													
	1632	1715	WEIS													
	2151	2400	MANI													
05	0000	1006	MANI													
	0549	1211	WEIS													
	1023	2309	SGMR													
	1259	1309	WEIS													
	1301	2245	HARV													
	1326	1716	WEIS													
	2150	2400	MANI													
06	0000	1006	MANI													
	0000	0130	BOUL													
	0540	1717	WEIS													
	1022	2311	SGMR													
	1302	2245	HARV													
	1500	2400	BOUL													
	2150	2400	MANI													
07	0000	0643	MANI													
	0000	0130	BOUL													
	0552	1005	WEIS													
	0654	1006	MANI													
	1008	1720	WEIS													
	1020	2312	SGMR													
	1230	2400	BOUL													
	1302	2245	HARV													
	2149	2400	MANI													
08	0000	1006	MANI													
	0000	0130	BOUL													
	0549	1034	WEIS													
	1018	2313	SGMR													
	1100	1722	WEIS													
	2149	2400	MANI							2219	2222	1	2219	2222	1	IIIGG
	1301	2245	HARV							2219.1	2231.1	2	2219.1	2231.1	2	IIIGG
	1230	2400	BOUL							2253.7	2258.6	1	2253.7	2258.6	1	IIIGG
			BOUL										2332.3	2335.8	1	IIIG
			BOUL													
09	0000	0130	BOUL													
	0000	1006	MANI													
	0549	1725	WEIS													
	0757	1454	OWIN													
	1017	2314	SGMR										1515.5	1515.7	2	III
	1230	2400	BOUL										1526.6	1526.7	1	III
			BOUL							1703.8	1703.9	1	1703.8	1703.9	1	III
			BOUL										1859.3	1859.5	1	III
			BOUL										1922.7	1922.9	1	III
			BOUL							1951	1952	2	1951	1952	2	IIIG
	1301	2245	HARV							1951.3	1752.1	1	1951.3	1952.1	1	IIIG
			BOUL										2001.1	2002.0	1	IIIG
			BOUL							2024.4	2043.0	1	2024.4	2043.0	1	CONT
			BOUL							2025	2026	1	2025	2026	1	IIIG
			HARV							2143	2144	2	2143	2144	2	IIIG
			HARV							2143.0	2144.6	1	2143.0	2144.6	1	IIIG
			BOUL													

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1974

APR 1974	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
09	2149	2400	MANI													
10	0000	1006	MANI													
	0000	0130	BOUL													
	0525	0722	WEIS													
	0757	1455	OWIN													
	1017	2315	SGMR													
	1230	1900	BOUL													
	1301	2245	HARV				1534	1535	3							IIIG
	0753	1727	WEIS							1534.1	1534.5	2				IIIG
			HARV							1749	2154	1				IN
			HARV				2103	2104	2							IIIG
			HARV				2128		3	2128		3				IIIG
			HARV				2129	2208	1							IN
	2148	2400	MANI													
	2200	2400	BOUL													
11	0000	0130	BOUL													
	0000	1006	MANI													
	0741	0958	WEIS													
	0758	1455	OWIN													
	1013	2316	SGMR													
	1030	1417	WEIS													
	1230	2100	BOUL													
	1433	1523	WEIS													
	1302	2245	HARV							1449	1450	2				IIIG
			HARV							1624	2236	1				IN
			HARV				1726	1806	1							IN
			HARV							1825	1826	3				IIIG
			HARV							1927	1928	2				IIIG
	2147	2400	MANI													
12	0000	1006	MANI													
	0000	0130	BOUL													
	0758	1455	OWIN													
	1012	2317	SGMR													
	0630		WEIS							1027.3	1927.4	1				IIIG
	1302	2250	HARV							1302	2250	1				I
			HARV							1549	1550	3				IIIG
	1230	2400	BOUL							2123.0	2123.2	1	2123.0	2123.2	1	III
	2147	2400	MANI													
13	0000	1006	MANI													
	0526	0922	WEIS													
	0757	1455	OWIN													
	1010	2318	SGMR													
	1301	2245	HARV							1303	2006	1				IN
			HARV							1333	1335	2				IIIG,U
	0926	1350	WEIS							1334.2	1334.2	2				IIIB
	1405	1545	WEIS													
			HARV				1439		1	1438	1441	3				IIIGG
			HARV							1508	1510	2				IIIGG
			HARV							1550	1551	1				IIIG
	0000	0130	BOUL										1622.2	1622.5	1	III
			HARV				1727	2137	1							IN
			HARV							1811	1812	2				IIIG
	1600	2400	BOUL										1921.4	1921.6	1	III
			BOUL										1957.9	1958.2	1	III
			BOUL										2001.6	2002.1	1	IIIG
			HARV							2006	2245 D	1				I
			BOUL										2007.6	2007.8	1	III
			BOUL										2016.7	2016.9	1	III
			BOUL							2157.2	2157.8	2	2157.2	2157.8	2	IIIG
			BOUL										2223.3	2223.6	1	III
			BOUL							2230.7	2230.9	1	2230.7	2230.9	1	III
			BOUL							2232.1	2232.2	1	2232.1	2232.2	1	III
			BOUL										2303.6	2305.0	1	IIIG
			BOUL										2312.3	2312.5	1	III
			BOUL							2348.0	2347.6	2	2348.0	2347.6	2	IIIG
	2145	2400	MANI										2355.2	2355.8	3	III
14	0000	0130	BOUL							0016.5	0016.5	2	0016.5	0016.5	2	III
			BOUL							0032.1	0032.5	2	0032.1	0032.5	2	III
			BOUL							0040.3	0040.8	2	0040.3	0040.8	2	III
	0000	1006	MANI										0614.4	0620.8	3	IIIG
	0702	1729	WEIS							0715.4	0715.6	1				IIIB
			WEIS							0734.4	0734.6	1				IIIB
	0757	1455	OWIN													
			WEIS							0822.4	0822.6	1				IIIB
			WEIS							0923.7	0924.6	2				IIIG
			WEIS							0925.4	0925.6	1				IIIB
			WEIS							0926.6	0927.2	1				IIIG
			WEIS							0936.0	1629.0	1				IN
	1008	2320	SGMR										1126.8	1127.2	2	III
	1302	2245	HARV							1302 E	1640	1				I
			HARV				1306	1550	1							IN
	1230	2400	BOUL							1312.5	1312.6	1	1312.5	1312.6	1	IIII
			HARV							1359	1400	1				IIIG
			BOUL										1451.8	1451.9	1	III
			SGMR										1510.8	1510.2	2	III

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1974

APR 1974	TIMES OF OBSERVATION		STATION	EVENTS														SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND					
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.			
14			BOUL										1513.8	1513.9	1			III
			BOUL							1537.3	1539.2	1	1537.3	1539.2	1			IIIG
			BOUL							1542.8	1542.9	1	1542.8	1542.9	1			III
			HARV							1648	2000	1						IN
			BOUL										1735.7	1736.1	1			III
			BOUL										1749.7	1749.9	1			III
			HARV							1803	1805	2						IIIG
			BOUL							1803.4	1803.9	1	1803.4	1803.9	1			IIIG
			BOUL										1933.1	1933.3	1			III
			HARV							2000	2245	D 1						I
			BOUL										2142.6	2142.9	1			III
			BOUL										2150.7	2150.8	1			III
			BOUL							2337.6	2337.7	1	2337.6	2337.7	1			III
			BOUL							2343.5	2345.0	2	2343.5	2345.0	2			IIIG
	2145	2400	MANI										2344.4	2344.8	1			III
			BOUL										2357.2	2357.3	1			III
15	0000	0200	BOUL															
	0518	0906	WEIS							0520.3	0520.4	1						IIIB
			WEIS							0525.0	1210.0	1						IN
			WEIS							0838.4	0830.7	1						IIIG
			WEIS							0842.7	0843.4	3						IIIG
	0000	1007	MANI										0842.8	0843.1	2			III
	0937	1522	WEIS							0940.7	0941.0	1						IIIG
			WEIS							0950.4	0953.0	1						IIIGG
	1007	2321	SGMR										1113.5	1114.4	1			III
			WEIS							1113.6	1114.2	1						IIIG
			WEIS							1125.9	1126.1	1						IIIG
			SGMR										1126.8	1131.8	2			IIIG
			WEIS							1127.8	1131.3	3						IIIGG
			WEIS							1134.3	1134.4	1						IIIB
			WEIS							1148.3	1148.4	2						IIIB
			WEIS							1201.4	1201.7	1						IIIB
			SGMR										1201.4	1202.0	1			III
	1301	2245	HARV				1325	1327	3									IIIG
	0757	1454	DWIN				1326.5	1326.5	2	1334.2	1334.7	2						IIIG
			HARV							1327	1756	1						IN
			HARV				1334	1335	3	1334	1335	2						IIIG
	1230	2400	BOUL										1424.2	1424.4	1			III
			HARV				1426	1430	3	1426	1430	3						IIIG
			BOUL										1428.2	1428.7	1			III
			BOUL										1514.4	1514.5	1			III
			BOUL										1538.3	1538.5	1			III
			BOUL										1612.3	1612.5	1			III
			BOUL							1619.9	1620.0	1	1619.9	1620.0	1			III
			HARV							1716		1	1716		1			IIIG
			HARV				1909	1910	3									IIIG
			HARV							2009	2056	1						IN
	2145	2400	MANI															
16	0000	1008	MANI															
	0000	0200	BOUL															
	0802	0856	DWIN															
	0930	1154	DWIN															
	0727	1730	WEIS							0944.2	0944.3	1						IIIB
			WEIS							0947.6	0948.7	1						IIIG
			WEIS							1114.0	1650.0	2						IN
	1005	2322	SGMR										1148.2	1148.7	2			III
	1302	2245	HARV							1318	2145	1						IN
			HARV				1624	1644	1									IN
	1230	2400	BOUL										1632.6	1632.9	1			III
			BOUL										1707.0	1707.3	1			III
			HARV							1934	1935	2						IIIG
			HARV							1946	1949	2						IIIGG
			BOUL							1946.6	1946.7	1						III
			BOUL										1948.3	1948.7	1			III
			BOUL										1956.7	1956.9	1			III
			HARV							2025	2026	2						IIIG
			BOUL										2121.6	2121.9	1			III
			BOUL							2254.0	2254.5	1	2254.0	2254.5	1			III
			BOUL							2257.3	2258.0	1	2257.3	2258.0	1			IIIG
			BOUL										2325.5	2328.7	1			IIIG
			BOUL							2329.7	2334.6	2	2329.7	2334.6	2			IIIG
	2145	2400	MANI										2332.7	2333.0	1			III
17	0000	0200	BOUL										0121.9	0124.3	2			IIIG
	0000	1008	MANI										0122.5	0124.2	2			IIIG
	0520	0957	WEIS							0651.7	0653.7	1						IIIG
	0802	1459	DWIN															
			WEIS							0846.6	0847.8	1						IIIG
	1024	1415	WEIS							1045.0	1145.0	2						I
	1302	2400	HARV							1418	1419	2						IIIG,U
	1429	1526	WEIS															
			HARV							1433	1434	3						IIIG
	1003	2323	SGMR										1433.7	1434.5	1	II		
	1230	2400	BOUL							1433.7	1434.3	1	1433.7	1434.3	1			III
			BOUL							1539.8	1540.0	1	1539.8	1540.0	1			III
			HARV							1540		3						IIIB
			HARV							1542	1545	1						IIIG
			HARV							1558	2100	1						IN

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1974

APR 1974	TIMES OF OBSERVATION		STATION	EVENTS													SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.		
17			BOUL							1657.7	1657.9	1	1657.7	1657.9	1		III
			SGMR										1719.7	1721.3	2		III
			BOUL							1719.8	1721.6	2	1719.8	1721.6	2		III
			HARV							1720	1721	3	1720	1721	3		IIIGG,V
			BOUL							1808.1	1808.3	1	1808.1	1808.3	1		III
			HARV				1851	1935	1								IN
			BOUL										1910.4	1910.6	1		III
			BOUL							1927.3	1927.4	1					III
			HARV							1933	1936	2	1934	1935	2		IIIG
			BOUL							1933.7	1935.8	1	1933.7	1935.8	1		IIIG
			SGMR										1934.2	1934.5	1		III
			BOUL							2040.5	2042.4	1	2040.5	2042.4	1		IIIG
			HARV							2041	2044	3	2041	2044	3		IIIGG
			BOUL							2042.8	2045.0	2	2042.8	2045.0	2		IIIG
			SGMR										2042.9	2045.0	1		IIIG
			HARV							2059	2100	2	2059	2100	2		IIIGG
			SGMR										2059.5	2100.3	1		IIIG
			HARV							2100	2400	1					I
			HARV							2104	2108	2	2107	2108	2		IIIGG
			BOUL							2104.3	2108.5	2	2104.3	2108.5	2		IIIG
			BOUL							2116.4	2116.9	1	2116.4	2116.9	1		IIIG
	2144	2400	MANI														
			BOUL										2151	2400	1		CONT
			BOUL							2238.4	2249.8	2	2238.4	2249.8	2		IIIGG
			HARV				2240	2242	1	2238	2243	2					IIIGG,U
			HARV							2245	2250	2	2247		1		IIIGG
18	0000	0200	BOUL										0000	0116	1		CONT
	0000	0108	HARV							0040	0100	1					I
	0000	1008	MANI										0331.1	0331.5	1		III
			MANI										0343.6	0343.8	1		III
			MANI										0445.4	0445.9	1		III
			MANI										0448.8	0449.1	1		III
			MANI										0618.7	0618.9	1		III
			MANI										0623.3	0623.5	1		III
	0720	1733	WEIS							0724.0	1045.0						I
			WEIS							0742.5	0742.6	1					IIIB
	0802	1500	OWIN														
			WEIS							0855.5	0856.0	2					IIIG
			MANI										0855.6	0855.9	2		III
			WEIS							0900.3	0900.5	1					IIIB
	1301	2245	HARV							1301	1417	1					IN
	1200	2400	BOUL										1311.5	1313.2	1		IIIG
			BOUL										1431.5	1431.7	1		III
			BOUL										1526.6	1526.8	1		III
			HARV				1537	1726	1								IN
			BOUL										1557.9	1558.1	1		III
			HARV				1755	1756	2	1755	1756	2					IIIGG,U
			BOUL							1755.7	1756.5	1	1755.7	1756.5	1		IIIG
			HARV							1833	1837	3	1833	1837	3		IIIG,V
			BOUL							1833.6	1839.6	2	1833.6	1839.6	2		IIIG
	1002	2324	SGMR										1833.7	1837.2	2		V
			BOUL										1847.0	1847.2	1		III
			HARV							2000	2245	1					IN
			BOUL										2000.0	2000.5	1		III
			BOUL							2032.8	2033.2	1	2032.8	2033.2	1		III
			BOUL										2040.0	2040.9	1		IIIG
	2144	2400	MANI														
			BOUL										2240.5	2242.8	1		IIIG
19	0000	1008	MANI														
	0000	0200	BOUL							0002.5	0002.6	1	0002.5	0002.6	1		III
	0522	0951	WEIS							0526.0	0645.0	2					I
	0903	1459	OWIN														
	1000	2325	SGMR														
	1027	1424	WEIS														
	1302	2245	HARV							1420	1422	2					IIIGG
	1438	1522	WEIS														
			HARV							1606	1643	1					IN
			HARV							1900	2000	1					I
	1200	2400	BOUL										2000.6	2000.8	1		III
			BOUL							2049.1	2049.2	1	2049.1	2049.2	1		III
			BOUL										2133.7	2134.0	1		III
	2144	2400	MANI														
20	0000	1008	MANI														
	0000	0200	BOUL														
	0618	1748	WEIS														
	0803	1500	OWIN														
	0959	2326	SGMR														
	1200	2400	BOUL														
	1301	2245	HARV				2140	2141	1	2140	2141	2					IIIG
	2144	2400	MANI														
21	0000	1009	MANI														
	0000	0200	BOUL														
	0802	1500	OWIN														
	0513	0919	WEIS							0824.1	0824.2	1					IIIB
	0957	2327	SGMR														
	1200	2400	BOUL														

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1974

APR 1974	TIMES OF OBSERVATION		STATION	EVENTS													SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.		
21	1302	2245	HARV														
	1215	1749	WEIS							1305.4	1305.5	1					IIIB
	2143	2400	MANI														
22	0000	1011	MANI														
	0000	0200	BOUL														
	0514	1746	WEIS														
	0803	1500	OWIN														
	0956	2329	SGMR														
	1200	2400	BOUL														
	1302	2245	HARV														
	2142	2400	MANI														
23	0000	1011	MANI														
	0000	0200	BOUL														
	0500	0639	WEIS														
	0655	1740	WEIS														
	0803	1500	OWIN														
	0955	2330	SGMR														
	1200	2400	BOUL														
	2141	2400	MANI														
	1301	2245	HARV							2211	2214	1					IIIG
24	0000	1011	MANI														
	0000	0200	BOUL														
	0500	1507	WEIS														
	0802	1501	OWIN														
	0953	2331	SGMR														
	1200	2400	BOUL										1234.3	1234.5	1		III
			BOUL										1252.5	1252.6	1		III
	1511	1749	WEIS							1616.7	1616.9	2					IIIG
	1302	2245	HARV							1617		3					IIIG
			BOUL										2012.8	2013.0	1		III
			BOUL							2038.8	2039.0	1	2038.8	2039.0	1		III
	2141	2400	MANI														
			BOUL							2148.2	2149.3	1	2148.2	2149.3	1		IIIG
			BOUL							2228.6	2228.8	2	2228.6	2228.8	2		III
			BOUL										2244.4	2244.6	1		III
			BOUL							2257.8	2257.2	1	2257.8	2257.2	1		III
			BOUL							2259.8	2300.3	1	2259.8	2300.3	1		III
25	0000	0200	BOUL														
	0000	0640	MANI														
	0750	1011	MANI														
	0801	1204	OWIN														
	1200	2400	BOUL										1421.4	1422.9	1		IIIG
			BOUL										1445.4	1446.5	1		III
	0951	2332	SGMR										1445.6	1446.2	1		III
			BOUL							1454.2	1454.4	1	1454.2	1454.4	1		III
	0502	1748	WEIS							1534.5	1534.8	1					IIIB
	1301	2245	HARV							1535	1536	3	1535	1536	2		IIIB
			SGMR										1535.5	1535.8	2		III
			BOUL							1535.5	1536.4	2	1535.5	1536.4	2		III
			BOUL										1553.9	1554.3	1		III
			SGMR										1554.2	1554.3	1		III
			BOUL										1646.5	1647.1	1		III
			BOUL										1654.0	1654.5	1		III
			BOUL										1712.5	1713.8	1		IIIG
			HARV							1723	1726	1					IIIG
			BOUL							1723.2	1728.3	1	1723.2	1728.3	1		IIIG
			BOUL							1923.1	1924.8	1	1923.1	1924.8	1		IIIG
			SGMR										1923.2	1923.6	1		III
			BOUL							2107.8	2108.8	1	2107.8	2108.8	1		III
			BOUL										2120.7	2124.7	1		IIIG
			HARV							2125	2127	3	2125	2127	3		IIIG
			BOUL							2125.3	2126.8	2	2125.3	2126.8	2		III
			SGMR										2125.7	2126.3	1		III
			BOUL							2146.8	2147.1	1	2146.8	2147.1	1		III
			BOUL							2214.8	2217.2	1	2214.8	2217.2	1		IIIG
			BOUL										2227.6	2227.8	1		III
			BOUL							2304.3	2305.7	1	2304.3	2305.7	1		III
			BOUL							2342.4	2344.5	2	2342.4	2344.5	2		IIIG
	2141	2356	MANI										2342.6	2342.9	2		III
			BOUL							2351.8	2352.6	2	2351.8	2352.6	2		III
26	0000	0200	BOUL							0003.8	0004.8	1	0003.8	0004.8	1		IIIG
	0037	1011	MANI														
	0504	0915	WEIS														
	1031	1500	WEIS														
	1200	2400	BOUL							1245	1257.1	1					IS
			BOUL							1246.1	1247.9	1	1246.1	1247.9	1		IIIG
	0950	2333	SGMR										1246.1	1248.0	1		IIIG
			BOUL										1256.2	1257.1	1		IIIG
	1302	2245	HARV							1302	1620	1					IM
			BOUL										1317.9	1318.2	1		III
			SGMR										1349.7	1351.3	1		V
			BOUL							1349.8	1353.2	2	1349.8	1353.2	2		IIIG
	1421	1459	OWIN														
			HARV							1445	1446	2					IIIGG
			BOUL										1445.1	1446.1	1		III

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1974

APR 1974	TIMES OF OBSERVATION		STATION	EVENTS														SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND					
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.			
26			SGMR										1445.5	1446.0	1			III
			HARV							1613	1615	2	1613	1614	1			IIIGG
			BOUL							1613.1	1614.5	2	1613.1	1614.5	2			IIIG
			SGMR										1613.9	1614.2	1			III
			BOUL										1718.5	1718.6	1			III
			BOUL										1821.0	1821.3	2			III
			BOUL										1912.6	1912.8	1			III
			HARV							1938	2118	1						IN
	2140	2400	MANI															
			BOUL							2147.2	2149.9	2	2147.2	2149.9	2			III
			BOUL										2151.4	2153.7	1			IIIG
			BOUL										2243.0	2243.2	1			III
			BOUL										2249.6	2249.8	1			III
27	0000	0200	BOUL							0123.2	0123.5	1	0123.2	0123.5	1			III
	0000	1011	MANI										0149.8	0150.4	1			III
	0802	1459	DWIN															
	1200	2400	BOUL							1654.2	1703.4	2	1654.2	1703.4	2			IIIGG
	0948	2334	SGMR										1655.7	1656.2	1			III
	1302	2245	HARV							1656	1700	2	1656	1700	2			IIIG
			HARV							1702	1703	3	1702	1703	3			IIIG
			SGMR										1702.7	1703.2	2			III
			BOUL										1751.8	1754.4	1			IIIG
			SGMR										1754.5	1754.6	1			III
			BOUL										1849.6	1849.9	1			III
			BOUL										1901.3	1901.4	1			III
			BOUL							1926.8	1927.0	1	1926.8	1927.0	1			III
			BOUL										1947.1	1948.8	1			IIIG
			BOUL							1958.5	2400	2	1958.5	2400	2			IIIN
			HARV							2001	2003	2	2001	2003	2			IIIG
			SGMR										2002.0	2002.9	1			III
			HARV							2013	2222	2	2013	2222	2			IIIN
			SGMR										2030.3	2030.6	1			III
			SGMR										2110.9	2111.5	1			III
	2139	2400	MANI															
			SGMR										2146.9	2147.7	1			III
			SGMR										2149.8	2150.3	1			III
28	0000	0200	BOUL							0031.9	0033.0	2	0031.9	0033.0	2			IIIG
			BOUL							0100.3	0104.2	2	0100.3	0104.2	2			IIIG
	0000	1012	MANI										0102.4	0102.7	1			III
			MANI										0236.6	0240.9	2			IIIG
			MANI										0747.6	0747.7	1			III
	0801	1458	DWIN															
	0947	2335	SGMR										1127.8	1129.6	1			III
			SGMR										1223.9	1225.4	2			III
	1200	2400	BOUL										1224.2	1224.8	2			III
			BOUL										1309.8	1311.3	1			IIIG
			BOUL							1312.8	1313.3	1	1312.8	1313.3	1			III
			BOUL										1315.4	1315.6	1			III
			BOUL										1354.1	1354.2	1			III
			BOUL										1356.5	1356.6	1			III
			SGMR										1445.8	1446.7	1			III
			BOUL							1455.8	1456.4	2	1455.8	1456.4	2			III
			BOUL										1601.2	1601.5	1			III
			SGMR										1601.4	1603.8	1			IIIG
			BOUL										1603.2	1603.7	1			III
			BOUL							1608.7	1618.1	2	1608.7	1610.1	2			IIIG
			BOUL										1627.1	1628.1	1			IIIG
			BOUL										1656.8	1656.9	1			III
			BOUL										1711.2	1711.3	1			III
			BOUL							1857.7	1901.8	2	1857.7	1901.8	2			IIIG
	1301	2245	HARV							1858	1902	3	1858	1902	3			IIIG,U,V
			SGMR										1858.8	1859.8	2			V
			SGMR										1901.2	1907.5	2			IIIG
			HARV							1907	2120	2	1907	2120	2			IIIN
			BOUL							1907.4	1908.2	1	1907.4	1908.2	1			IIIG
			BOUL										1919.2	1923.6	1			IIIG
			BOUL										1926.4	1926.5	1			III
			BOUL										1932.1	1935.9	1			IIIG
			BOUL										1944.0	1944.2	1			III
			BOUL										1950.9	1952.1	1			IIIG
			SGMR										1951.8	1952.2	1			III
			BOUL										1956.2	1956.5	1			III
			HARV							2005	2008	3	2005	2008	3			IIIGG
			SGMR										2005.5	2006.9	2			III
			BOUL							2005.5	2008.8	2	2005.5	2008.8	2			IIIGG
			BOUL										2037.1	2037.6	1			III
			BOUL										2041.0	2047.1	1			III
			SGMR										2041.4	2041.6	1			III
			BOUL										2051.9	2052.3	1			III
			HARV							2105	2110	2	2105	2110	2			IIIGG
			BOUL										2108.6	2110.9	1			IIIG
			BOUL							2117.6	2119.7	2	2117.6	2119.7	2			IIIG
			SGMR										2118.4	2129.4	2			IIIG
			BOUL							2124.9	2129.4	2	2124.9	2129.4	2			IIIGG
			BOUL										2130	2233	1			CONT
			SGMR										2137.5	2221.8	1			IIIG
	2138	2400	MANI															
			BOUL							2150.4	2153.2	2	2150.4	2153.2	2			IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1974

APR 1974	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
28			HARV							2151	2153	2	2151	2153	2	IIIG
			BOUL							2156.1	2159.3	2	2156.1	2159.3	2	IIIG
			HARV							2211	2215	1	2211	2215	1	IIIG
			BOUL							2211.1	2222.1	2	2211.1	2222.1	2	IIIGG
			HARV							2218	2222	2	2219	2222	2	IIIG
			BOUL										2312.3	2312.5	1	III
			BOUL										2328.7	2328.9	1	III
			BOUL							2351.6	2351.9	1	2351.6	2351.9	1	III
29	0000	0200	BOUL							0009.3	0009.8	2	0009.3	0009.8	2	III
			BOUL							0026.8	0052.4	2	0026.8	0052.4	2	IIIN
	0000	1012	MANI										0030.2	0030.6	2	III
			MANI										0036.2	0036.6	1	III
			MANI										0044.5	0057.7	3	III
			BOUL							0111.1	0112.2	1	0111.1	0112.2	1	IIIG
			BOUL										0113.8	0114.1	1	III
			BOUL										0126.8	0127.0	1	III
	0801	1005	OWIN													
	0945	2336	SGMR										1049.0	1050.7	1	IIIG
	1200	2400	BOUL										1222.8	1315	1	CONT
			SGMR										1222.9	1223.3	1	III
			SGMR										1242.1	1242.5	1	III
			SGMR										1307.3	1311.4	2	IIIG
			SGMR										1330.8	1348.3	1	IIIG
			SGMR										1349.7	1350.2	2	III
			SGMR										1352.8	1407.5	1	IIIG
			BOUL										1533.8	1533.1	1	III
			BOUL							1553.8	1553.2	1	1553.8	1553.2	1	III
			BOUL							1610.9	1611.6	1	1610.9	1611.6	1	IIIG
			BOUL										1617.1	1617.3	1	III
			BOUL							1621.7	1622.7	1	1621.7	1622.7	1	IIIG
			SGMR										1621.9	1622.1	1	III
			BOUL										1703.1	1705.0	1	IIIG
			SGMR										1712.9	1713.2	1	III
			BOUL							1713.5	1714.5	1	1713.5	1714.5	1	IIIG
	1302	2245	HARV							1714	1754	1	1714	1754	1	IIIN
			BOUL										1716.5	1716.6	1	III
			BOUL										1719.7	1720.6	1	IIIG
			BOUL										1731.8	1731.9	1	III
			SGMR										1731.2	1731.6	1	III
			BOUL							1750.5	1851.2	1	1750.5	1851.2	1	IIIN
			HARV							1900	1904	3	1900	1904	3	IIIGG
			BOUL							1900.7	1904.4	2	1900.7	1904.4	2	IIIG
			SGMR										1900.8	1904.5	2	IIIG
			BOUL										1935.9	1936.9	1	III
			BOUL							2011.2	2015.5	2	2011.2	2015.5	2	IIIG
			SGMR										2012.2	2012.3	1	III
			BOUL							2027.4	2400	1	2027.4	2400	1	CONT
			SGMR										2039.7	2049.5	1	IIIG
			HARV							2044	2049	2	2044	2049	2	IIIGG
			BOUL							2046.8	2049.5	2	2046.8	2049.5	2	IIIG
			BOUL							2300.7	2400	2	2300.7	2400	1	IIIN
			SGMR										2302.1	2304.2	1	IIIG
	2130	2400	MANI										2302.2	2304.8	2	IIIG
			MANI										2339.1	2339.5	1	III
			MANI										2355.8	2358.3	2	IIIG
30	0000	0200	BOUL										0000	0125	1	CONT
			BOUL							0000	0124.2	2	0000	0124.2	2	IIIN
	0000	1012	MANI										0036.5	0047.7	2	IIIG
			MANI										0205.9	0210.9	3	IIIG
			MANI										0302.5	0312.1	3	IIIG
			MANI										0535.2	0535.7	1	III
	0445	1600	WEIS							0922.5	0923.3	2				IIIG
			WEIS							1050.5	1050.7	1				IIIG
	1140	1350	OWIN													
			WEIS							1232.2	1232.4	1				IIIB
	1200	2400	BOUL							1232.2	1347.0	2	1232.2	1347.0	2	IIIN
	0944	2338	SGMR										1232.3	1232.7	1	III
	1246	2245	HARV							1249	1315	1				IN
			BOUL							1250	1345	1	1250	1345	1	CONT
			SGMR										1250.2	1252.6	2	III
			WEIS							1250.3	1250.6	1				IIIB
			SGMR										1304.8	1311.0	3	IIIG
			HARV							1305	1311	2				IIIGG
			WEIS							1309.4	1310.2	1				IIIGG
			SGMR										1318.4	1319.1	2	III
			SGMR										1328.8	1343.9	2	IIIG
			BOUL										1410.9	1412.6	1	IIIG
			BOUL							1430	1442.8	1	1430	1442.8	1	CONT
			SGMR										1432.3	1830.2	2	CONT
			HARV							1441	1529	2				I
			WEIS							1442.8	1445.0	1				IIIG
			BOUL							1442.8	1530	3	1442.8	1530	3	IV
			HARV							1443	1528	3	1444	1528	2	IIIS
			WEIS							1445.5	1600.8	2				IIIGG
			BOUL							1530	1735	1	1530	1735	1	CONT
			HARV							1537	1602	1				IN
			HARV							1559	1859	1	1559	1859	1	IIIN
			BOUL							1735	1830	1	1735	1830	1	CONT

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1974

APR 1974	TIMES OF OBSERVATION		STATION	EVENTS													SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.		
30			HARV							1756	1759	3	1756	1759	3		IIIGG,V
			BOUL							1756.5	1830.0	2	1756.5	1830.0	2		IIIN
			SGMR										1756.7	1758.7	2		IIIG
			HARV				1805	1808	2	1803	1813	3	1803	1811	3		IIIGG
			SGMR										1806.0	1808.2	2		IIIG
			HARV							1820	1823	3	1820	1823	3		IIIG
			HARV				1830		2	1830		3	1830		3		IIIP
			BOUL							1854.8	1859.4	1	1854.8	1859.4	1		IIIG
			BOUL										1909.6	1909.8	1		III
			BOUL							1943.4	1943.5	1	1943.4	1943.5	1		III
			HARV							2101	2150	2	2101	2150	2		IIIN
			BOUL							2101.4	2101.5	1	2101.4	2101.5	1		III
			BOUL							2126.5	2137.0	2	2126.5	2137.0	2		IIIG
			SGMR										2128.8	2129.1	1		III
	2138	2400	MANI														
			BOUL							2149.5	2150.6	2	2149.5	2150.6	2		III
			SGMR										2149.7	2150.3	1		III
			HARV							2211	2245	1					I
			HARV							2212	2217	2	2212	2217	2		IIIGG
			BOUL							2212.0	2220.5	2	2212.0	2220.5	2		IIIG
			SGMR										2213.6	2215.7	1		III
			BOUL							2220	2400	1	2220	2400	1		CONT

The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of bursts
C = Underlying continuum (particularly with type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III
RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity

COSMIC RAY INDICES

(Neutron Monitors)

APRIL 1974

APR 1974	THULE Average cts/hr	ALERT Average cts/hr	DEEP RIVER Average cts/hr	CALGARY Average cts/hr	SULPHUR MT Average cts/hr	KIEL Average cts/hr	TOKYO Average cts/hr
1	4554.8	7473.7	6973.0	12040.0	8943.7	6332.9	3579.1
2	4552.6	7476.8	6975.1	12044.9	8926.8	6325.6	3579.2
3	4519.5	7415.5	6907.4	11964.0	8815.5	6274.9	3568.6
4	4488.4	7354.8	6864.7	11862.7	8725.1	6226.3	3559.9
5	4492.3	7367.0	6892.8	11843.5	8711.3	6253.6	3550.2
6	4482.7	7371.8	6903.8	11842.7	8782.6	6247.3	3554.1
7	4478.3	7373.1	6905.6	11900.5	8789.1	6249.4	3545.0
8	4485.8	7386.0	6906.3	11890.1	8788.4	6246.7	3533.2
9	4513.2	7423.1	6936.7	11933.0	8856.7	6279.5	3537.5
10	4497.0	7387.5	6935.7	11925.5	8824.1	6277.3	3542.0
11	4513.4	7394.8	6920.0	11903.5	8843.5	6294.2	3531.8
12	4529.2	7410.6	6901.0	11900.4	8823.6	6276.8	3525.7
13	4538.5	7428.1	6915.3	11964.2	8854.6	6277.7	3529.3
14	4557.2	7479.8	6954.7	12014.9	8883.5	6311.1	3539.9
15	4561.9	7483.5	7019.5	12043.7	8940.0	6338.7	3549.5
16	4586.0	7507.3	7022.6	12112.4	8982.2	6357.2	3548.1
17	4593.5	7551.4	7037.1	12134.2	9002.6	6361.0	3557.9
18	4577.3	7563.2	7047.5	12125.5	9025.5	6388.8	3572.6
19	4562.5	7542.3	7038.4	12066.6	8961.2	6375.0	3566.6
20	4526.9	7484.1	6994.3	12000.9	8937.2	6339.5	3549.7
21	4509.3	7435.8	6950.9	11951.6	8891.7	6318.9	3526.2
22	4504.9	7438.6	6948.0	11949.9(23)	8884.3	6312.7	3536.5
23	4510.1	7457.3	6996.9	12012.9	8922.5	6338.1	3541.3
24	4524.2	7481.2	7011.7	12034.5	8944.5	6355.3	3553.5
25	4526.8	7477.1	7008.3	12037.2	8958.6	6362.7	3556.6
26	4522.2	7444.4	6968.2	11952.3	8896.6	6319.1	3561.0
27	4503.4	7405.5	6924.3	11790.5	8748.3	6298.7	3560.8
28	4506.2	7411.2	6908.3	11833.6	8779.2	6284.7	3548.5
29	4515.0	7410.5	6920.5	11910.9	8817.0	6294.4	3556.7
30	4526.5	7421.5	6946.0	11933.3	8816.9	6321.6	3563.2
MEAN	4522.6	7441.9	6954.2	11964.0	8869.2	6308.0	3550.8

( ) Number of hours for which data are available if less than 24.

Thule, Alert, Calgary, Sulphur Mountain and Kiel Scaling Factors = 100.
Deep River Scaling Factor = 300.

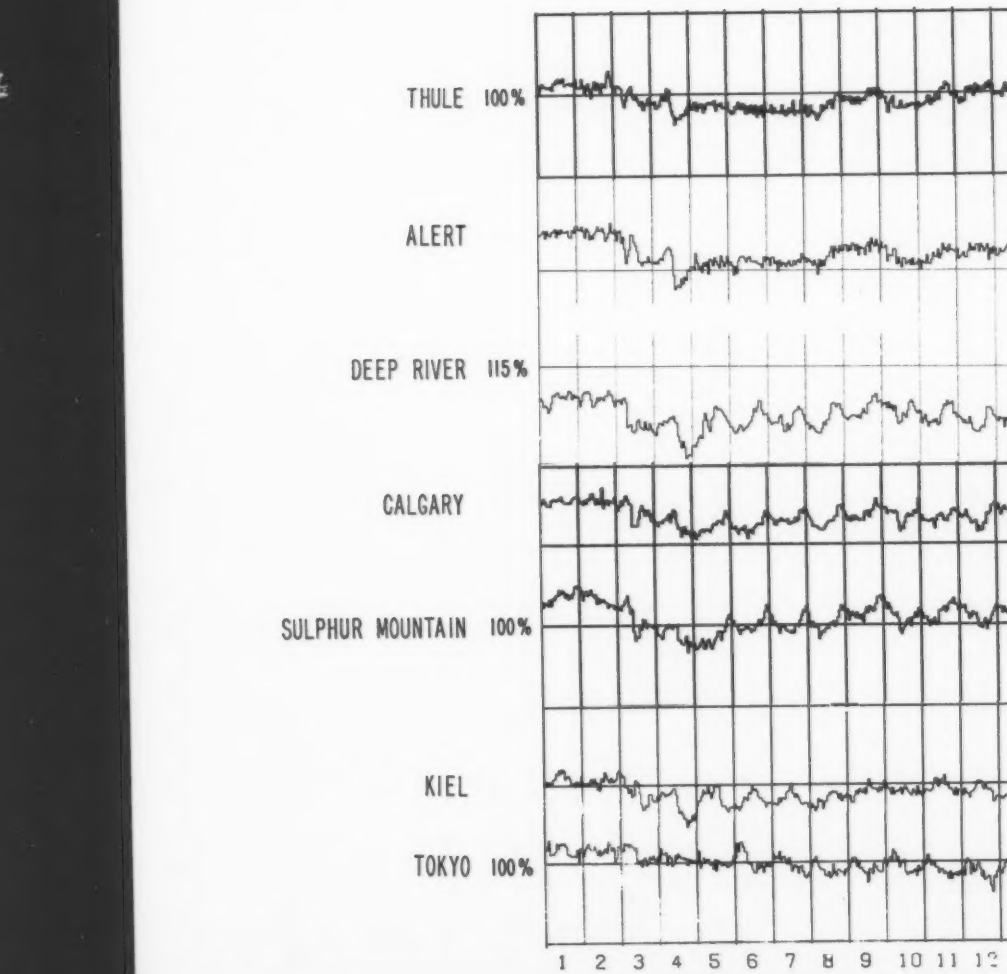
Tokyo " " = 128.

See *Descriptive Text* for other characteristics.

Note: The Dallas Neutron Monitor Station has ceased operation as of March 31, 1974.

COS

(Pressure



COSMIC RAY INDICES

ure Corrected Hourly Totals)

APRIL 1974

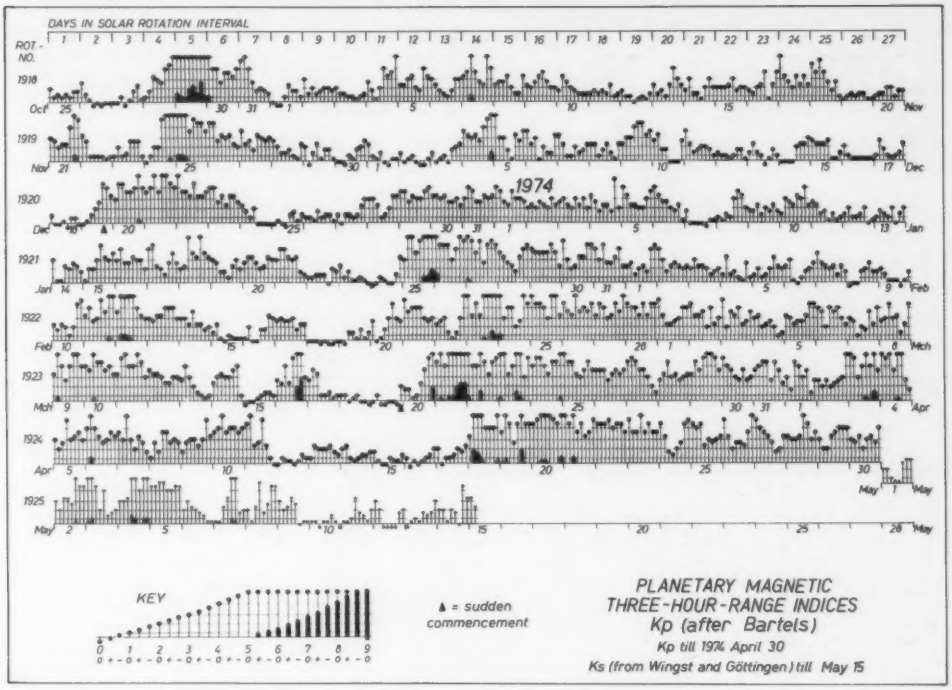
111
Apr 74

GEOMAGNETIC ACTIVITY INDICES

APRIL 1974

Day	Three-Hour Range Indices Kp									Prel Ci	Cp	Ap	aa			
	1	2	3	4	5	6	7	8	Sum				N	S	M	
1	3	2-	4+	4	3	4-	1+	3-	24-	0.9	0.9	17	27	29	26 29	
2 Q	3-	2	3-	2	2+	3-	3	5	22+	0.8	0.9	15	29	23	17 35	
3 D	5	5-	3	4	5+	4	6	4-	36-	1.5	1.4	39	64	59	47 76	
4	5	5-	5	4-	5+	5	3-	2-	33	1.4	1.4	35	35	56	49 42	
5	3	2	3-	5-	3	3+	4-	3	25+	1.0	1.0	18	32	35	34 34	
6	4	6-	4	3+	3-	3	4-	3+	30-	1.1	1.2	26	40	37	42 36	
7	4-	3	5	3	2	3+	3-	2-	24+	0.8	1.0	18	29	36	40 24	
8 Q	1	3-	2-	4-	4-	3-	3	3-	21	0.8	0.8	13	20	24	19 25	
9 Q	2-	3-	3	3	2+	3	5-	3+	24-	0.8	0.9	16	33	29	23 40	
10	4-	4	5	4-	4	4	4-	4	32	1.2	1.2	28	43	46	44 44	
11	4+	5	2+	3-	5-	2+	1	0+	23-	0.9	1.0	19	27	32	35 24	
12QQ	0+	1	1-	1-	0+	1-	1+	1	6	0.0	0.1	3	7	5	6 6	CK
13 Q	1	2+	2	2	2	2+	2-	1+	15-	0.2	0.3	7	18	12	14 17	K
14QQ	2	2+	1	1-	1	1+	1+	2-	11+	0.1	0.2	5	13	7	12 9	CC
15QQ	2-	1-	0+	0+	1	1-	1-	1+	7-	0.0	0.1	4	7	4	6 6	CC
16QQ	1	0	1-	0+	1-	1	1+	2	7	0.1	0.1	4	12	4	5 11	CC
17QQ	2	0+	1	1	1+	2	2-	2+	12-	0.3	0.2	6	12	11	6 17	C
18 D	3+	6+	6	5+	4	4	4	5+	38+	1.5	1.6	48	62	67	74 56	
19 D	4-	5+	4+	3-	4+	6+	4+	4+	35+	1.4	1.4	39	46	54	34 66	
20 D	4+	5-	5+	5+	5	5-	4+	6-	39+	1.4	1.5	46	53	74	58 69	
21 D	5	4+	6-	4-	4+	3+	4-	5-	35-	1.2	1.4	35	52	52	55 50	
22	4+	4+	4+	5-	4	4+	4+	4-	34	1.2	1.3	31	52	44	45 51	
23	5-	4-	4-	5	4-	4+	4-	4-	32+	1.3	1.3	29	43	52	48 47	
24	4+	3+	2-	1+	2	3-	4+	5-	24+	1.1	1.0	19	35	26	27 36	
25	4+	4	4+	2+	3	3-	3	3+	27	1.1	1.0	20	32	40	40 32	
26	5-	3+	2	3-	3-	2+	4-	5	26+	1.0	1.1	21	43	25	32 36	
27	5-	4	4-	3+	3-	2-	2	6+	25+	1.0	1.0	19	27	37	44 20	
28	3+	3	3	3+	5	4+	3	4-	29-	1.1	1.1	23	35	37	27 45	
29	3	2	2	3+	4-	4	4	4	26	1.1	1.0	19	30	33	18 45	
30 Q	3	3-	3+	2	3	3+	3-	4	24	1.0	0.9	16	27	35	26 37	
									MEAN	0.91	0.94	21	32.9	34.2	33.6	

GEOMAGNETIC ACTIVITY INDICES



DAILY AVERAGE INDICES Ap

DAY	1973 MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1974 JAN	FEB	MAR	APR
1	17	3	19	12	5	5	4	4	17	13	20	17
2	12	20	11	16	6	31	7	2	9	12	18	15
3	9	14	7	7	6	48	5	5	11	8	20	39
4	8	19	4	8	12	12	18	29	13	7	10	35
5	5	10	4	9	15	10	14	17	14	8	18	18
6	13	8	3	13	9	12	9	10	12	7	20	26
7	16	4	3	8	8	6	28	8	2	10	13	18
8	17	6	13	9	8	6	11	7	10	5	17	13
9	12	9	8	5	44	10	12	21	7	4	33	16
10	7	33	6	4	27	21	8	8	14	14	30	28
11	6	34	6	4	12	11	6	8	6	30	32	19
12	7	30	6	5	7	15	4	4	5	40	15	3
13	20	24	8	10	8	17	18	4	5	20	10	7
14	80	18	8	8	4	7	8	6	8	12	16	5
15	37	13	32	4	12	6	8	8	15	4	3	4
16	32	11	15	3	14	30	18	4	15	7	42	4
17	27	18	6	2	10	27	17	6	16	11	9	6
18	22	30	6	4	7	22	19	3	24	1	3	48
19	21	38	10	6	3	20	4	13	9	4	2	39
20	23	18	9	9	12	20	6	29	14	12	23	46
21	46	6	5	6	15	37	23	34	16	23	68	35
22	20	3	6	12	17	20	7	25	5	14	39	31
23	15	10	14	22	63	6	8	18	4	44	42	29
24	4	34	6	46	28	7	26	4	4	29	34	19
25	6	6	9	29	27	5	42	3	50	34	28	28
26	8	4	36	18	25	3	18	4	38	28	20	21
27	10	4	29	26	8	4	14	6	34	26	22	19
28	8	21	14	28	4	20	6	11	18	27	18	23
29	3	41	18	20	4	86	5	19	22		34	19
30	3	29	19	13	4	28	4	15	21		20	16
31	4		26	9		19		17	19		24	
MEAN	17	17	12	12	14	18	12	11	15	16	23	21

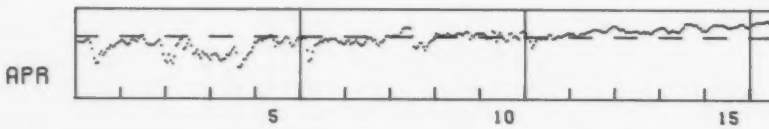
HOURLY EQUATORIAL Ds

APRIL

NASA/GODDARD SPACE FLIGHT CENTER

(Time-UT)

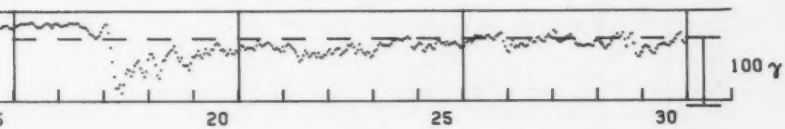
DAY	1	2	3	4	5	6	7	8	9	10	11	
1	-8	-9	-9	-9	-8	-6	-5	-10	-19	-33	-40	-3
2	-5	-8	-11	-13	-11	-6	-5	-7	-8	-3	0	
3	-38	-27	-36	-40	-30	-14	-11	-5	-4	-19	-17	-1
4	-27	-26	-26	-29	-34	-36	-34	-33	-27	-28	-24	-2
5	-9	-6	-3	-7	-3	-3	-1	1	1	-6	-15	
6	-4	-1	-2	-20	-36	-33	-23	-13	-12	-10	-7	
7	-7	-6	-11	-9	-9	-5	-9	-12	-13	-12	-8	
8	-1	1	1	1	1	6	11	13	13	13	12	
9	4	3	1	1	2	1	5	3	1	1	2	
10	5	5	3	-3	-1	-2	8	6	-7	2	6	
11	4	-2	-7	-16	-12	-6	-3	-2	-3	0	-2	
12	4	5	2	0	1	4	5	4	6	7	8	
13	15	13	11	12	11	8	7	8	7	8	9	
14	14	14	13	10	7	8	10	9	9	7	9	
15	9	12	14	16	18	18	18	18	18	18	17	
16	17	19	20	22	22	22	23	22	23	24	22	
17	20	18	19	20	20	23	23	22	22	23	22	
18	21	21	9	-13	-34	-56	-72	-71	-67	-79	-67	-5
19	-22	-22	-28	-38	-53	-57	-46	-32	-31	-25	-21	-1
20	-27	-24	-18	-25	-28	-21	-15	-21	-23	-16	-16	
21	-18	-10	-12	-16	-14	-14	-14	-14	-17	-10	-4	
22	-19	-11	-8	-10	-13	-16	-20	-26	-34	-31	-25	-1
23	-16	-23	-22	-17	-15	-15	-24	-21	-19	-17	-10	-1
24	-19	-16	-10	-7	-9	-11	-10	-11	-11	-8	-4	
25	-7	-9	-18	-20	-14	-10	-10	-15	-16	-8	-3	
26	-12	-7	-5	-2	-6	-3	3	3	0	2	0	
27	-21	-10	-4	-14	-12	-13	-9	-9	-12	-12	-11	
28	11	8	-4	-6	-5	-3	-2	2	-1	4	0	
29	-3	-6	-10	-15	-16	-12	-10	-5	1	0	6	
30	-15	-11	-13	-15	-20	-23	-23	-16	-12	-10	-9	



DST VALUES (PROVISIONAL)

APRIL 1974

12	13	14	15	16	17	18	19	20	21	22	23	24
-39	-27	-23	-28	-24	-19	-18	-14	-16	-15	-11	-10	-8
1	-5	-11	-12	-13	-13	-13	-11	-8	-6	-14	-27	-36
-11	-5	-14	-26	-24	-20	-27	-32	-23	-26	-27	-30	-34
-20	-16	-24	-45	-45	-41	-34	-33	-28	-25	-23	-16	-9
-8	-10	-9	-7	-3	-1	-3	-10	-15	-13	-7	-3	-6
-8	-5	-4	-7	-4	-4	-4	-4	-7	-8	-8	-10	-11
-4	-2	-2	-5	-5	-10	-13	-8	-8	-5	0	1	0
1	-15	-17	-14	-9	-9	-15	-20	-14	-9	-7	-5	-3
4	5	4	2	5	7	6	-3	2	0	4	5	4
1	-3	-7	-5	4	5	-1	1	-1	-3	6	7	9
-2	3	3	-3	-2	-1	1	0	0	2	3	5	5
10	11	11	10	10	9	7	7	8	11	13	15	16
9	8	6	7	8	6	8	6	6	9	11	12	13
12	15	19	20	19	20	18	18	18	15	13	10	10
15	14	14	14	15	16	17	19	19	19	16	15	14
19	17	16	17	19	21	23	22	20	17	21	23	22
18	17	16	15	12	8	6	4	1	2	4	10	17
-50	-45	-46	-54	-48	-39	-35	-32	-43	-50	-56	-47	-30
-18	-15	-11	-20	-28	-33	-28	-39	-40	-39	-46	-36	-27
-9	-7	-9	-17	-16	-18	-24	-22	-16	-22	-23	-18	-20
-9	-11	-10	-8	-6	-7	-10	-14	-16	-14	-16	-19	-12
-18	-22	-27	-25	-22	-22	-27	-21	-28	-28	-25	-24	-20
-11	-8	-13	-22	-17	-9	-17	-21	-24	-20	-21	-28	-26
-2	-1	-1	-2	-3	-1	0	2	-1	-13	-16	-13	-10
-5	-8	-7	-10	-6	-10	-8	-8	-6	-9	-11	-14	-12
0	3	4	1	-1	-2	2	4	7	7	-5	-13	-19
-4	0	-7	-5	0	1	-3	-5	-5	1	5	2	0
-3	-9	-12	-13	-12	-12	-11	-10	-10	-12	-12	-5	-4
1	2	7	-2	-13	-1	5	6	-9	-24	-28	-27	-22
-8	-10	-11	-12	-7	-7	-2	3	5	7	-5	-8	-8



PRINCIPAL MAGNETIC STORMS

APRIL 1974

OBS. 2 letter IAGA code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT DAY	hr min (UT)	TYPE	SC - AMPLITUDES D(')	H(γ)	Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	H(γ)	Z(γ)	UT END DAY	HOUR
NE	55.1N	1	05--	..	..	..	..	01(3)	5	17	112	109	01	18
IR	41.0N	1	08--	..	..	..	..	01(6)	5	14	117	39	01	17
GU	4.0N	1	0634	..	..	..	..	01(3)	5	00	130	30	07	14
SI	60.0N	2	19--	..	..	..	..	04(3)	7	120	970	820	04	18
NE	55.1N	2	1900	..	..	..	..	04(3)	6	45	189	217	04	18
WI	54.2N	2	19--	..	..	..	..	03(7)	7	40	235	100	04	19
FR	49.6N	2	19--	..	..	..	..	04(1)	5	35	130	75	07	21
BD	48.9N	2	19--	..	..	..	..	04(3)	6	34	125	80	04	16
IR	41.0N	2	10--	..	..	..	..	03(4)	7	22	168	40	04	21
TU	40.4N	2	19--	..	..	..	..	02(8) 03(2) 04(1,3,5)	5	16	130	35	04	18
SJ	29.9N	2	1800	..	..	..	..	02(8)	5	10	79	39	04	20
HR	33.7S	2	20--	..	..	..	..	03(7)	6	28	106	88	04	18
KG	56.5S	2	0237	SC	--	--	--	02(8) 03(5,7) 04(5)	6	--	--	--	04	--
EG	43.9N	3	0436	SC*	- 1.9	+13	+ 7	03(7)	6	18	119	97	04	20
AL	9.5N	3	0437	SC	--	17	--	03 5	6	3	123	20	03	20
HD	7.6N	3	0436	SC	- 0.2	+20	- 3	03(5,7)	5	3	128	11	03	22
GU	4.0N	3	0437	SC*	0.1	20	6	--	-	--	--	--	--	--
AN	1.5N	3	0437	SC	- 0.9	35	10	-- -	-	3	139	44	03	20
TV	1.1S	3	0437	SC	0.2	34	37	-- -	-	2	129	180	03	20
PM	18.7S	3	0437	SC	0.5	17	16	04(5)	5	5	100	50	07	15
GN	43.2S	3	0438	SC*	2	9	5	03(5)	6	21	120	130	04	18
AL	9.5N	4	03--	..	..	..	..	04 5	6	3	134	21	04	20
HD	7.6N	4	0600	..	..	..	..	04(5)	6	4	174	21	06	06
TV	1.1S	4	03--	..	..	..	..	-- -	-	2	150	77	04	20
NE	55.1N	5	0013	SC*	5	4	--	06(2)	6	44	85	192	07	20
BD	48.9N	5	09--	..	..	..	..	06(3)	6	35	65	45	07	21
IR	41.0N	5	05--	..	..	..	..	05(4) 06(2)	5	15	126	39	07	21
NE	55.1N	9	16--	..	..	..	..	10(3,5) 11(5)	5	30	108	89	11	16
BD	48.9N	9	21--	..	..	..	..	10(3)	5	20	70	45	11	21
IR	41.0N	9	05--	..	..	..	..	10(3,5)	6	22	126	29	11	16
HD	7.6N	10	0230	..	..	..	..	10(3,5,6)	4	4	101	19	11	16
SI	60.0N	17	08--	..	..	..	..	18(3)	7	110	920	540	24	02
NE	55.1N	18	0034	SC	2	22	3	18(3)	6	43	265	268	24	06
WI	54.2N	18	02--	..	..	..	..	19(6) 20(8)	6	30	220	105	24	03
FR	49.6N	18	02--	..	..	..	..	19(6)	6	28	145	110	24	06
BD	48.9N	18	02--	..	..	..	..	18(3)	6	33	110	70	24	09
EG	43.9N	18	00--	..	..	..	..	19(6) 20(5)	5	18	118	68	23	03
IR	41.0N	18	01--	..	..	..	..	18(3,4)	5	18	108	59	18	17
IR	41.0N	19	18--	..	..	..	..	19(6) 20(5)	6	29	172	39	21	15
TU	40.4N	18	02--	..	..	..	..	18(2,3,4) 19(2,6) 20(2,6) 21(3) 22(2) 23(1,4) 24(1)	5	17	125	30	24	06
SJ	29.9N	18	0030	..	..	..	..	18(2)	5	11	97	35	21	12
HD	7.6N	18	0100	..	..	..	..	18(2,3,4) 19(5,6)	5	5	134	30	19	23
GU	4.0N	18	0034	..	..	..	..	18(2)	6	10	220	40	24	09
AP	16.0S	18	01--	..	..	..	..	18(2,4)	K	6	150	40	24	06
PM	18.7S	18	00--	..	..	..	..	18(4) 19(6) 22(4) 23(1) 27(4)	5	5	210	80	01	00
HR	33.7S	18	02--	..	..	..	..	18(3) 19(6)	5	27	114	129	24	02
GN	43.2S	18	22..	..	..	..	..	19(6)	7	28	160	140	24	07
KG	56.5S	18	02--	..	..	..	..	18(8) 19(6) 24(1)	6	--	--	--	24	03
HD	7.6N	20	0300	..	..	..	..	20(5,6)	5	5	66	25	21	21
IR	41.0N	22	01--	..	..	..	..	22(4) 23(1,4)	5	16	92	42	24	02
HD	7.6N	22	0000	..	..	..	..	22(3,4,5,6) 23(4,5,6)	4	5	83	22	23	21
NE	55.1N	24	1906	..	..	..	..	25(1) 26(1) 27(1,2,4)	5	25	99	115	27	17
BD	48.9N	24	20--	..	..	..	..	25(1)	5	21	75	65	27	17
HR	33.7S	26	19--	..	..	..	..	27(1)	5	14	49	48	27	17

Reports were received from the following observatories:

Sitka, Witteveen, Boulder, Irkutsk, San Juan, Hyderabad, Annamalainagar, Apia, Hermanus, Newport, Fredericksburg, Ebro, Tucson, Alibag, Guam, Trivandrum, Port Moresby, Gnangara, Port-aux-Francais

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

APRIL 1974

PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS (by Dr. A. Romana)

The meaning of the station symbols is given in the IAGA-Bulletins nr. 12 and 32. Times of ssc and si commencements are mean values. If given by ten or more stations they are underlined.

Sudden commencements followed by a magnetic storm or a period of storminess (ssc)

03 0437 A: LM; B: EB SZ PM HU PP GN TO KG; C: VI? KA (si: A: SO WN FU LG; B: NU WI TL? DU - sfe: IK)

Sudden impulses found in the magnetograms (si)

n o n e

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

02 1508 - 1544 TN

05 0728 - 0737 SZ

10 0920 - 0934 SZ

13 1046 - 1052 WN

15 1308 - 1321 WN

16 0736 - 0754 IK EB

16 1622 - 1638 EB FR SZ HU (si: A: LG)

17 1400 - 1420 TN

22 0817 - 0829 SZ

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

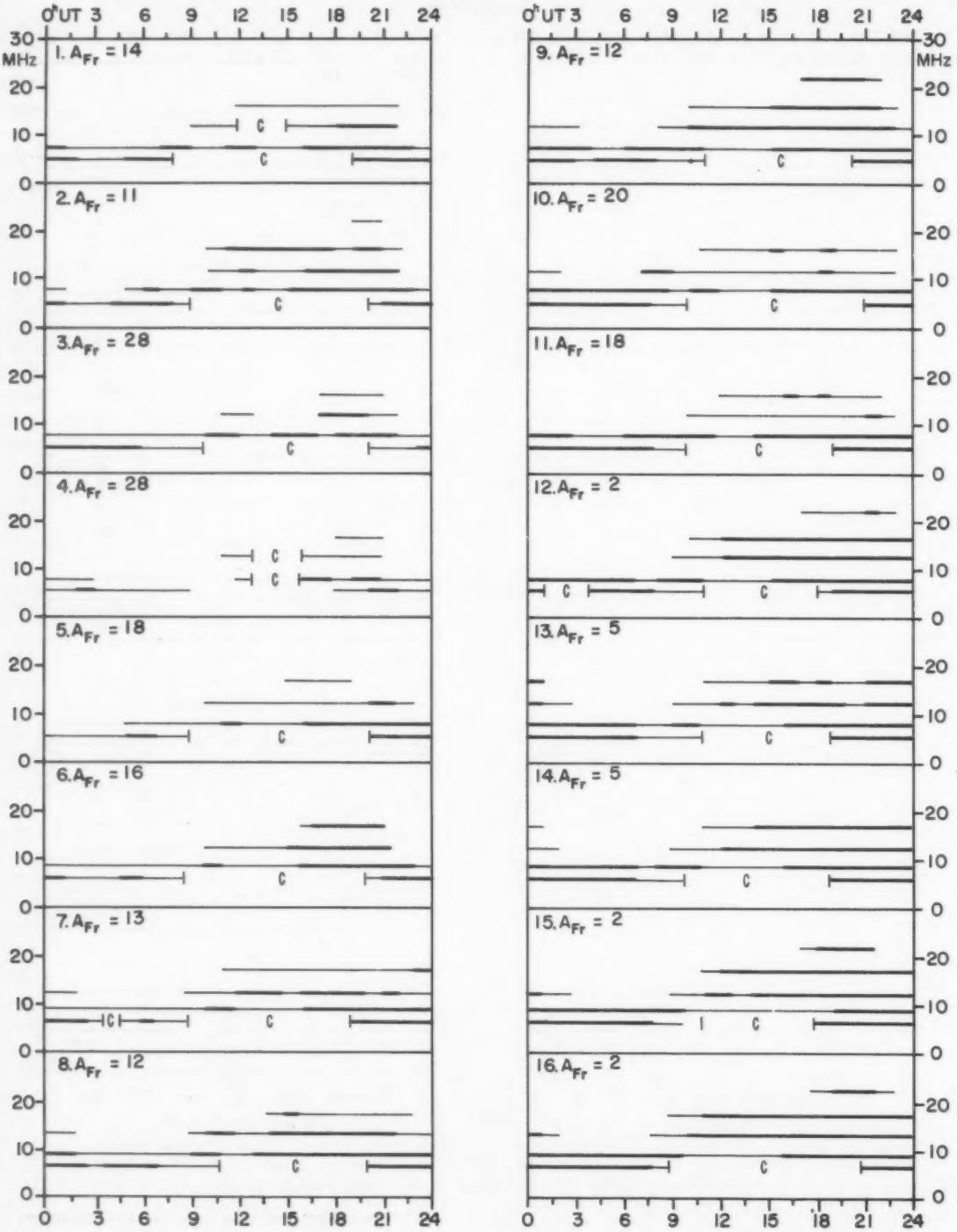
APRIL 1974

North Atlantic

APR 1974	WHOLE DAY INDICES NORTH ATLANTIC	ADVANCE FORECASTS (JC-REPORTS) FOR WHOLE DAY	NORTH ATLANTIC 6-HOURLY QUALITY FIGURES 00 TO 06	06 TO 12	12 TO 18	18 TO 24	SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF 02	08	14	20	GEOMAGNETIC INDICES K_{FR} HALF DAY (1)	(2)	A_{FR} OBSERVED
01	5o	5	5+	4-	5+	6-	6	6	6	6	3	2	14
02	6-	5	5+	5+	6o	5+	5	5	6	6	2	3	11
03	5+	6	6-	5o	5o	5o	6	5	5	5	(4)	(4)	28
04	4o	5	5o	2+	5-	4+	5	4	4	5	(5)	3	28
05	4+	5	4o	3+	4+	5+	5	5	5	5	3	3	18
06	6-	5	5+	6-	6-	6-	5	5	5	5	3	3	16
07	6-	5	6-	6-	6-	5+	5	5	6	6	3	2	13
08	6-	6	6-	6-	6+	6-	5	5	6	6	2	3	12
09	6-	6	6o	5o	6+	6-	6	6	6	6	2	3	12
10	6-	6	6o	5o	5+	6-	6	5	5	5	(4)	3	20
11	6-	6	6-	5o	6+	6-	5	5	6	6	(4)	2	18
12	6o	6	6-	6-	6+	6o	6	6	6	6	1	1	2
13	6o	6	7-	6-	6+	6-	6	6	6	6	2	1	5
14	6+	6	6o	6o	7-	6+	6	5	6	7	2	1	5
15	6+	6	7-	5+	6+	7-	6	6	6	7	1	1	2
16	6+	5	7o	6+	6o	6+	6	7	6	7	0	1	2
17	7-	4	7-	7-	6+	7o	6	7	7	6	1	1	4
18	4+	5	4o	3+	5o	5+	6	6	5	5	(4)	3	26
19	5-	4	4-	4+	6-	5o	4	4	5	5	(4)	(5)	33
20	4+	4	3-	3+	5+	6o	4	4	5	5	(4)	(4)	27
21	5+	5	5+	5o	5o	6o	5	5	5	5	(4)	3	24
22	5o	5	5+	5o	5+	5+	5	5	5	5	(4)	3	22
23	5o	5	5-	5-	5+	6-	5	4	5	5	(4)	3	20
24	6-	5	4+	6-	6o	6+	5	5	5	6	3	3	14
25	5+	5	5o	4+	6o	6o	5	5	6	6	(4)	3	18
26	6o	5	6o	6-	6+	6o	5	5	6	6	3	3	14
27	5o	6	5-	4+	6-	6-	6	5	5	5	(4)	3	22
28	6-	6	5+	5o	6o	6o	5	5	6	5	3	(4)	18
29	5o	5	5+	4-	6+	5+	5	5	5	5	3	(4)	16
30	6o	4	6-	5+	6+	6+	5	5	5	5	(4)	3	19

TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

APRIL 1974



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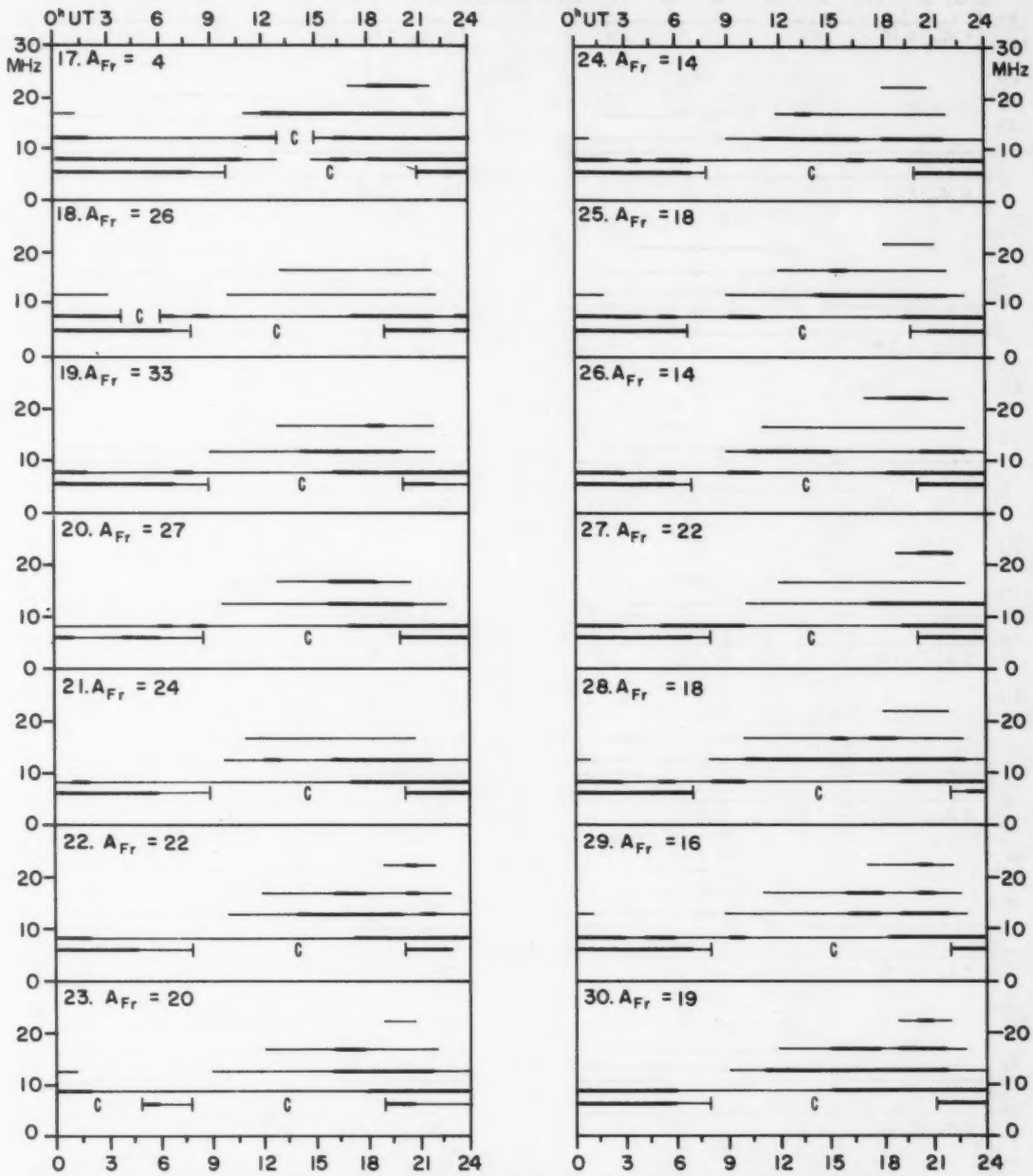

Field strengths from four frequencies, 8.542, 12.813, 17.084 and 22.378 MHz, as observed on a Lüchow - Halifax circuit are represented above. Heavy solid lines represent field strengths ≥-12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line.

Adapted from Observations by Deutsche Bundespost

RADIO PROPAGATION QUALITY INDICES

APRIL 1974

Calculated from the records of four frequencies
on the circuit Lüchow - Halifax (Germany - Canada)

Date	Day	Night	D+N
1	3.8	3.2	3.6
2	5.3	3.6	4.8
3	3.2	2.5	2.9
4	2.2	2.5	2.3
5	3.6	2.9	3.2
6	4.1	3.8	3.8
7	5.0	4.4	4.5
8	5.8	5.6	5.3
9	7.3	6.2	6.6
10	5.1	5.0	4.7
11	4.8	4.9	4.4
12	8.6	7.2	7.4
13	6.6	6.8	6.0
14	7.8	8.0	7.2
15	8.5	8.3	7.8
16	9.4	9.6	8.7
17	7.7	6.6	6.7
18	3.6	3.7	3.4
19	4.0	3.1	3.6
20	4.3	3.5	3.8
21	4.6	3.7	4.0
22	5.0	3.7	4.2
23	4.3	3.7	3.9
24	5.3	4.6	4.6
25	4.8	3.9	4.2
26	5.2	4.5	4.6
27	5.4	5.2	4.8
28	5.9	4.7	5.0
29	5.1	4.2	4.5
30	5.7	4.5	5.0

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AMERICAN REVOLUTION BICENTENNIAL
1776-1976